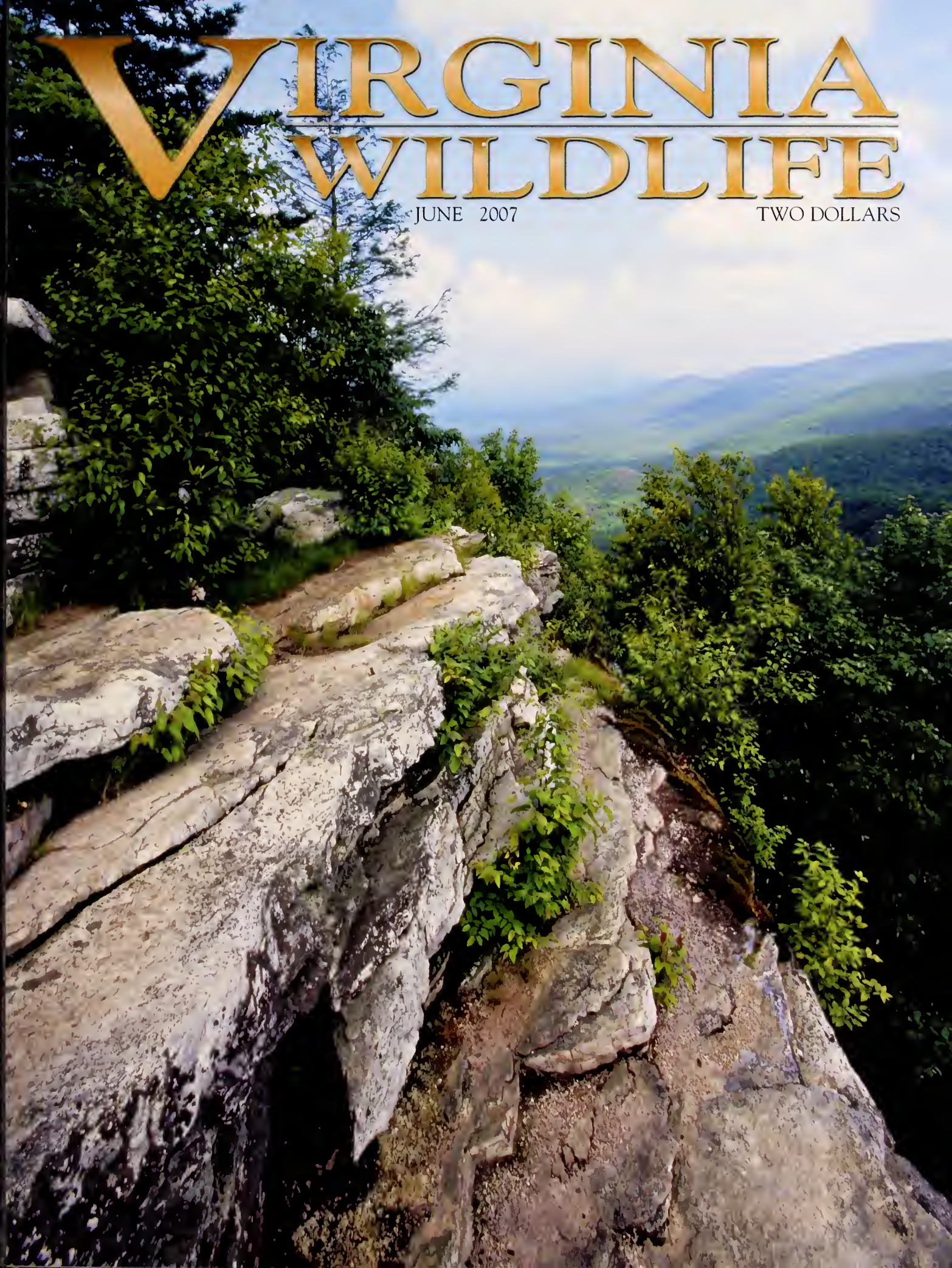


VIRGINIA WILDLIFE

JUNE 2007

TWO DOLLARS





J. Carlton Courter, III
Director



The roots of the present day Virginia Department of Game and Inland Fisheries reach back as far as the late 1800s. With no game and fish laws to speak of at that time much of the state wildlife resources were going unchecked. Market hunting, illicit gunning, and over-fishing and trapping, were taking its toll on many of the state's wildlife species. This reduction of the once plentiful supply of wildlife was starting to have an effect, in Virginia and throughout the country. Citizens were beginning to see a need for protective measures for wildlife and legislative bodies across the United States began to address those concerns. As more wildlife disappeared each year, the citizens of Virginia became increasingly concerned. In 1903, the Virginia General Assembly established a statewide system of game wardens to enforce wildlife laws and on June 17, 1916 they became part of a new era of wildlife protection and propagation, as valuable members of the Virginia Department of Game and Inland Fisheries.

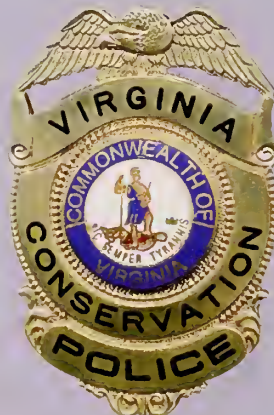
Since its humble beginnings, the Department has relied on the tireless dedication and sacrifices of Virginia game wardens who have authority to exercise general law enforcement powers statewide. Much has changed since the first game warden was sworn in and sent afield to protect the state's wildlife and natural resources. The role of the Department's Law Enforcement Division has grown considerably and evolved, now more than ever, with everyday issues such as homeland security, gang activities, driving violations, illegal use of drugs and alcohol, and assisting other law enforcement agencies. Every day of the year the Department's law enforcement personnel patrol the Commonwealth by water, land and air, encountering the same public safety issues as other police officers.

I am very pleased to inform you that effective July 1, 2007, Virginia's game wardens will have a

new name. In an effort to raise awareness of the Department's Law Enforcement Division, sworn officers will be called Conservation Police Officers. We certainly appreciate the support of Delegate Rob Wittman, who was the patron of the bill, the General Assembly for their unanimous passage of the bill, and Governor Tim Kaine for his support of what is an important step for our officers and the Department of Game and Inland Fisheries.

In today's more urban Virginia, wildlife enforcement officers often intersect with mainstream police and find themselves dealing with people who do not understand their law enforcement authority. In addition to being more suburban and urban, Virginia has become more culturally diverse than ever and the word police is now universally recognized. The name change from game warden to conservation police officer will involve changes to badges, uniform patches and patrol vehicles, such as cars and boats. The change will also let folks know who we are and allow us to better serve all the citizens of Virginia. While conservation police officer will be a new title, along with full police powers, our first and foremost duty will be to enforce the game, fish and boating laws of the Commonwealth.

As you take to the woods and water this summer and throughout the year I encourage you to get to know your local conservation police officer and to know that they are there to serve and protect you as you enjoy Virginia's great outdoors.



Mission Statement

To manage Virginia's wildlife and inland fish to maintain optimum populations of all species to serve the needs of the Commonwealth; to provide opportunity for all to enjoy wildlife, inland fish, boating and related outdoor recreation; to promote safety for persons and property in connection with boating, hunting and fishing.

Dedicated to the Conservation of Virginia's Wildlife and Natural Resources

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Timothy M. Kaine, Governor

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About the cover:

At 3,675 feet, the War Spur area offers access to several trails along Salt Pond Mountain, including War Branch Trail, Chestnut Trail, Appalachian Trail, War Spur Overlook Trail, and Virgin Timber Trail. Unique attributes of this area include the numer-

ous stands of virgin hemlock, red spruce and pines. The old-growth forests situated along this mountaintop are particularly productive for birders in search of nesting neotropical high-elevation species such as winter wren, veery, black-capped chickadee, golden-crowned kinglet, cerulean and Blackburnian warblers and rose-breasted grosbeak. It is also a favorite site for hunters, cold water anglers and hikers.
©Lynda Richardson.

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Home Grown

A down home approach to fly fishing patterns that produce more than just good looks.

by Beau Beasley

Each spring fly anglers across the Old Dominion sort through their fly boxes to decide which patterns they'll put to good use in the upcoming season and which won't make the cut. Harry Murray's Mr. Rapidan and Jim Finn's Golden Retriever lead the pack as perhaps the best known Virginia patterns, and both are terrific. But did you know that great Virginia fly patterns abound? Let's take a moment to check out a few of these home-grown patterns, learn why they were created, and find out how to put them to good use.

Jim Hickey, a longtime Shenandoah River guide who now lives and guides in Jackson Hole, Wyoming, regularly guided clients in Patagonia, Chile, "land of the condor," during the off-season in Virginia. While in Chile, Hickey noticed that the resident trout went nuts for what looked like damselflies. Back at camp, Hickey experimented at his flytying vice until he came up with a respectable imitation of the trouts' favorite fly. His pattern was a hit in Patagonia; Hickey's Condor was born. Hickey brought the Condor home with him,

©Dwight Dyke



Hickey's Condor

own Flies



Russell's Mussel

Tommy's Eel Fly

comes in chartreuse, brown, black, orange and blue in sizes 6 to 12.

Brothers Brian and Colby Trow own Mossy Creek Fly Fishing in Harrisonburg, Virginia. They also guide clients for trout and smallmouth bass in several rivers across the state, so they needed a versatile pattern. Enter

slider are painted seven times, rendering them nearly bulletproof. Walt's Poppers feel like throwbacks to the days when an angler would go into his local hardware store to pick up his fishing supplies. You won't find them in hardware stores today, but you will find them in nearly



©Dwight Dyke

Above: Flies can be used to bring walleye to hand like this one from the New River. Above right: A fly angler carefully hops rocks along the Maury River in search of smallmouth bass.



©Beau Beasley

noting the striking resemblance between his fly and the Virginia damselflies around him. Sure enough, his pattern was a hit with the fish here.

I have fished Hickey's Condor with tremendous success for several years; on my best day, I landed 22 smallies in a single afternoon without changing flies. Though originally tied for South American trout, Virginia fish take the Condor without a second thought. Hickey's Condor

Trow's Minnow, which has a great profile and mimics such things as baitfish, eels, sculpins and even hellgrammites. Though created specifically to entice Mossy Creek's big brown trout, bass and other warmwater fish seem to like it as well. In fact, Trow's Minnow now comes in sizes 6 to 2/0 in a wide variety of colors so that it can be used for saltwater species as well.

Walt Cary, Virginia's Popping Bug King, has been tying his classic Walt's Poppers for 50 years. Cary calls them "workhorses for the everyday angler," an apt description indeed because day in and day out these flies will take a tremendous amount of abuse. Both popper and

every fly shop in the state. Walt's Poppers come in a huge variety of colors and in sizes 2 to 12. And don't be surprised if these flies last longer on the river than you do.

Probably the best-known fly fishing guide on the James River, Chuck Kraft's years of experience have taught him one thing for certain: "A lot of people just throw patterns that are too darn small. If you want big fish, you have to stop thinking about casting tiny trout flies and give 'em something to bite into." Kraft's answer to the problem? The CK Baitfish, a minnow imitation that seems to swim as one draws in line and that is best fished with a strip-and-wait approach. Sometimes the fish will at-



CK Baitfish



Walt's Popper



tack the CK Baitfish as it moves, but more often than not I've found this pattern is hit while it sits suspended in the water. Do yourself a favor and pick up a handful of Kraft's flies. This is a pattern no Virginia fly angler should be without. The CK Baitfish is available in white, chartreuse and black in size 1.

Dover England has been fly angling for over 60 years, so it goes without saying that he has spent a lifetime on the water pursuing just about everything with a fly rod. He created Dover's Peach Fly a few years ago primarily for tight-lipped trout. "I was fishing on Beaver Dam Falls when I noticed a school of trout nosing around in the bottom of the river. I threw every pattern I had, but I couldn't get those trout to even give my patterns a second look. After watching them for a while, I was so intrigued that I scooped up a handful of silt from where they were feeding. It appeared to have some type of worm in it. Sometime later I asked Steve Hyder, an entomology professor at Virginia Tech, just what the worm was, and he identified it as crane fly larva."

After five years of experimentation with numerous different materials to try to mimic what those finicky trout were feasting on, Dover's Peach Fly was the result. But I'll share a secret with you: Though England tied the fly for trout, it's effective with a variety of freshwater species. Fly shops in the western section of the state order this pattern by the tens of dozens at a time, so if your local shop doesn't carry them, call a fly shop out there. Dover's Peach Fly comes in sizes 6 to 10 and is easily identified by its peach body.

One of the natural wonders of the aquatic world, crayfish inhabit nearly every stream in Virginia. These small crustaceans, which look like miniature lobsters to many of us, may comprise 40 percent of the diet of an adult bass. Guide and flytyer Chuck Kraft has struck again with

Fly anglers often rely on local patterns, that have been put to the test, to zero in and bring finicky trout to hand.

©Beau Beasley

the Claw-Dad, which mimics this favorite food source. Fish the Claw-Dad anywhere you expect to find a decent-sized bass. And if you think that trout won't be interested in this pattern, think again. The Claw-Dad is a killer on waters like Mossy Creek, the South Fork of the Holston River, and the Jackson River. The Claw-Dad is available in olive, tan, black and blue/black in sizes 2 to 6.

Saltwater fly fishing has taken off in Virginia, and few places have experienced the surge in the sport like the Chesapeake Bay. Though most anglers pursue stripers on the Bay, longtime fly angler Ron Russell prefers to go after spadefish, which might best be described as overgrown saltwater bluegill. Spadefish, so called because their bodies in profile resemble a rounded shovel head or spade, are hard fighters and eat clams strips and jellyfish. Unfortunately, this interesting diet renders traditional flies ineffective. Virginia Beach resident Russell stepped into the breach with Russell's Mussel, which is a fantastic fly for spadefish. Russell's Mussel comes in size 6 and is available in any color you like as long as it's tan.

Yes, our great Commonwealth is blessed with an abundance of fish and, fortunately, a host of talented fly tyers whose creations can give you



Above: Walt Cary's legendary poppers have been around for 50 years in the Old Dominion. Bottom left: The author with a nice rainbow. Bottom right: A selection of local flies on a Virginia Fly Fishing Festival hat.

the edge you need when you head streamside this year. Did I miss your favorite local pattern in this list? By all means, send it along to me, and I'll get to researching it right away. Putting these local patterns through their paces is tough work, but hey—someone's got to do it. □

Beau Beasley (www.beaubeasley.com) is an award-winning outdoor writer whose first book, *Fly Fishing Virginia: A No Nonsense Guide to Top Waters*, is available in fly shops throughout the state.



Where to Get Your Flies

Brookside Flies

www.brooksideflies.com

800-258-6336

Hickey's Condor

Walt's Poppers

Dover's Peach Fly

Mossy Creek Fly Fishing

www.mossycreekflyfishing.com

540-434-2444

Trow's Minnow

Crab Creek Outfitters

www.crabcreekoutfitters.com

757-460-1958

Russell's Mussel

Kreel Tackle Company


www.kreeltackle.com

434-296-9715

CK Baitfish

Claw-Dad





In Praise of Headwaters

From the mountain tops of the Blue Ridge to the Chesapeake Bay, people are learning that protecting our water and natural resources is not only important, it's downright the neighborly thing to do.

by Bruce Ingram

Sometimes when Virginia anglers become concerned about a river or lake fishery, they suggest various changes to length and creel regulations or perhaps request that catch and release or slot regulations be im-

plemented. Sometimes, of course, the fisheries can benefit from those regulation changes.

But many times, the reason or cause for the "problem that needs fixing" originates not within the lake or river itself for which fishermen are expressing concern, but far upstream or up lake in the headwaters. For here is a maxim that is often true about our state's rivers and impoundments: if the headwaters and watershed are healthy, so is the main river or lake.

Bob Boeren, a forester for the Virginia Department of Forestry (VDOF), explains why this is so.

"Absolutely, it matters to a lake or river that their headwaters be healthy," he says. "That's why two major goals of the Department of Forestry are to either maintain riparian forests or to restore/create them.

"A riparian zone as narrow as 50 feet in width can completely remove excess nitrogen that is leaching from

an agricultural or other area before that nitrogen reaches a stream. That zone can also filter sediment, phosphorus and other forms of runoff."

If riparian zones around headwater springs and creeks exist, tremendous benefits to wildlife can occur. Boeren adds that riparian zones help stabilize stream banks which prevents erosion; increase humidity which benefits amphibians, snakes and turtles; helps keep the water cooler which benefits trout, minnows and a host of other aquatic creatures; and maintains water quality, which benefits the Virginians that derive their water from these streams.

The riparian zones around headwater springs and creeks also benefit various other game and non-game species.

"One of the reasons that the Forestry Department likes to create riparian zones is so that we can con-



nect wildlife corridors that were previously separated," continues Boeren. "A new riparian zone that connects two previous ones has obvious benefits for hunters and game animals. Deer and turkeys, for example, can now have travel ways between areas along these streams."

Nongame animals also benefit. A reforested headwater spring or stream can then host such songbirds as hooded warblers, Louisiana waterthrush and common yellowthroats to name just a few. Later as the trees grow older, expect such songbirds as orchard orioles and parula warblers to appear.

Boeren relates that riparian zones as narrow as 35 feet can offer significant advantages for wildlife and water quality.

"A good rule of thumb is to reforest that part of the stream that lies within the flood plain," he explains. "For a small stream, that might be

anywhere from 35 to 100 or more feet. For the James River, for example, the flood plain could be 300 to 500 feet or more, depending on the terrain."

The VDOF and other providers sell many varieties of trees that will thrive along headwaters. Boeren lists among the possibilities such trees as yellow poplars, sycamores, northern red oaks, black oaks, box elders, red maples and dogwoods.

For landowners who want to log their property, tax credits exist for leaving a riparian zone intact. The VDOF also has riparian specialists that can assist landowners in creating buffers and protecting their headwaters.

From a Fisherman's Viewpoint

Scott Smith, a fisheries biologist for the Virginia Department of Game and Inland Fisheries (VDGIF), explains why headwater streams matter from a fisherman's viewpoint.

"Basically, water (and everything with and in it) goes downhill," he says. "Anything that happens in the watershed or headwaters will likely have some impact on larger rivers or reservoirs. A prime example is sedimentation. If you've got a lot of land-disturbing activities and poor riparian buffers upstream, that sediment will eventually end up in the bottom of rivers and lakes.

"Too much sediment is bad for just about all forms of aquatic life from game fish on down to the things they feed on, on down to what the forage feeds on."

What the Individual Does Can Make a Difference

Just a few yards past the Roanoke County line on Route 785 lies the 289-acre Montgomery County farm of

Above: This Highland County farm lies on the South Branch of the Potomac River. Cattle have denuded the left side of the river bank—with negative consequences downstream. There are cost share programs to help eliminate the problem. Right: An angler fishing for trout on the Smith River near Bassett. Trout especially benefit from vibrant riparian zones that cool the water.

Ned and Janet Yost. The couple placed their property under a Conservation Easement with the Virginia Outdoors Foundation (VOF), in part because of their love and concern for streams, in this case, the headwaters of the North Fork of the Roanoke River.

"I am acutely conscious that how we treat the stream on our property impacts our neighbors downstream," says Ned. "The area where we live is really a mini-divide. Catawba Creek, a headwater stream of the James River, starts on the other side of the county line, and so does the North Fork of the Roanoke, which flows in the opposite direction.

"I believe that at one time, the North Fork likely contained native brook trout. One of my goals is to improve the habitat along my portion of the stream, and perhaps convince my neighbors to do the same on their land. So that maybe one day, there can be a reproducing trout population in the stream."

Yost states that a Conservation Easement fit well with his long term goals for the property. The Easement allows him to protect a historic site (McDonalds Mill, which was built in 1860), a forested mountainside (timbering, of course, is still allowed



©Bruce Ingram

Contact Agencies

Virginia Association of Soil and Water Conservation Districts

804-559-0324
www.vaswcd.org.

Virginia Department of Conservation and Recreation

804-786-1712
www.dcr.virginia.gov

Virginia Department of Forestry

434-977-6555
www.dof.virginia.gov.
For more information on riparian zones, click on the Conserve link. An excellent source for tree seedlings and various wildlife mixes is the Augusta Forestry Center in Crimora (540-363-7000).

Virginia Department of Game and Inland Fisheries

804-367-1000
www.dgif.virginia.gov.

Virginia Outdoors Foundation

www.virginiaoutdoorsfoundation.org

Virginia State Farm Services Agency

804-287-1503
www.fsa.usda.gov/va
Look under Conservation Reserve Enhancement Program (CREP). CREP is a voluntary program for agricultural landowners to receive payments and cost share assistance to establish long-term resource conserving cover.

National Resources Conservation Service

www.nrcs.usda.gov

United States Fish and Wildlife Service

www.fws.gov
Look for the Partners in Fish and Wildlife Program.

Right: Elaine Ingram, the author's wife, and Tamara Vance of VOF, admire the spring where Sinking Creek begins in Craig County. One of the reasons for purchasing this 120-acre parcel and placing it under a conservation easement with VOF was to protect this headwater spring of the New River.



An angler fishing for smallmouth bass on the Eggleston to Pembroke section of the New River, near where Sinking Creek enters the waterway. What the author does on his Sinking Creek property affects the quality of fishing downstream.

under best management practices, as is hunting), and the property's traditional agricultural practices. Finally, he emphasizes that the need to protect headwaters transcends property lines and political boundaries such as county and state lines.

Not Just LIP Service

One of the most beneficial programs landowners can take advantage of is the relatively new Landowner Incentive Program (LIP) of the Department, funded by a grant from the United States Fish and Wildlife Service, starting in 2003. Bill Bennett, a stream restoration biologist for the VDGIF, relates that the department is eager to work with landowners and that funds are available on a cost share basis to achieve these objectives.

- ✓ Stop sedimentation that is occurring, often by stabilizing weak or failing banks.
- ✓ Work with farmers to create livestock exclusion structures, such as fences, along streams.

- ✓ Install livestock watering systems that are positioned away from streams.
- ✓ Create or enhance riparian zones by planting trees and other vegetation.
- ✓ Re-engineer a stream so that its natural channel can be restored.

"The major goals of LIP are to protect, enhance or improve habitats of



endangered, threatened or at-risk species such as the James spinymussel or the Roanoke logperch," says Bennett. "However, smallmouth bass, redbreast sunfish and of course, many other game and nongame species will benefit from LIP as well."

Personal Experience

In April, 2006, I purchased 120 acres in the Sinking Creek Valley of Craig County. The property lies at the literal continental divide between the James and New rivers with the water running off one side of the mountain entering the watershed of the James and the water coursing down the other side flowing into the watershed of the New, specifically the headwater spring of Sinking Creek on my land.

After I purchased the land, I immediately contacted the Virginia Outdoors Foundation; and Tamara Vance, a deputy director for the VOF, came to tour the property with my wife Elaine and me. A major goal of ours was that the spring and creek be protected permanently, and Vance explained that a Conservation Easement is a marvelous way to accomplish that objective.

I already knew that such is the case because earlier I had placed our 272-acre tract on Potts Mountain in Craig County under a Conservation Easement with the VOF, making sure that a headwater spring of the James that lies between my property and that of a neighbor's would never be negatively impacted by any man-made activities.

My family lives on a 29-acre tract on Catawba Creek in Botetourt County, and we also own a 30-acre tract on Johns Creek in Craig County. Outside of time spent with my family, I experience no greater joy in life than hunting, fishing, bird watching and just wildlife watching while afield on these properties. My family

According to National Geographic Society, the literal headwater of both the James and Potomac rivers begins at this Highland County barn. Water that flows off the left side enters the James River drainage; off the right side the water enters the Potomac River drainage.



©Dwight Dyke

wants to be good stewards of these special places.

Elaine says that I am "land and water crazy," and she's probably right. We even took a trip two years ago to view the Highland County barn that National Geographic confirmed as the literal beginning of the James and Potomac rivers with the barn roof "splitting the raindrops" between the two watersheds.

What that Highland County farmer does on his land matters downstream; what I do on my properties matters downstream; and the same holds true for all Virginians who own headwater springs and creeks. □

Bruce Ingram is the author of The James River Guide and The Shenandoah/Rappahannock Rivers Guide.



©Bruce Ingram



Come check out the lower Chesapeake Bay this summer for hot cobia action.

story and photos
by Marc N. McGlade

There is a cluster of salty anglers that relish the arrival of cobia (*Rachycentron canadum*) to the lower Chesapeake Bay, most notably in the Virginia Beach vicinity. Why, you might ask yourself? The answer to that question is easy. The collective attitude of cobia is simple. Their response is “bring it on” to any angler that wants to mix it up. Their fighting ability is duly noted, and then some.

This species of fish is similar to mackerel in shape. Their colors are brown on top, with cream below. A dark swatch stretches lengthwise from the end of the snout to the tail. They are a long, slim fish with a broad and depressed head, similar to a flathead catfish. The lower jaw projects past the upper jaw, and the first dorsal fin is comprised of seven to nine free spines. Young specimens have conspicuous alternating black-and-white horizontal stripes.

One moniker for the cobia is the crab eater, because of its propensity to chow down on the aforementioned.

Other sobriquets include coalfish, lemonfish and ling. The Virginia state-record cobia, as certified by the Virginia Saltwater Fishing Tournament, is a 109-pound giant, which was caught last year in June.

Cobia aficionados target them for several reasons. They strike with a vengeance, are speedy fish that can rip drag from a singing reel and are tremendous fighters. Sizes of cobia

run the gamut, but at Chesapeake Bay, these bruisers run on the large size, averaging between 25 and 50 pounds, with a behemoth weighing 100 pounds or more a possibility.

The range of cobia stretches from the Chesapeake Bay to the Gulf Coast. There are stragglers in the Northeast and New England, but not in abundance as they are in the South Atlantic and Gulf of Mexico.

Cobia at the



Upper left: Cobia, one of the strongest fish in the Bay, roam the Virginia Beach area during the heat of the summer. Above: Jim Clark hoists a beautiful cobia caught from the lower Chesapeake Bay, adjacent to the Chesapeake Bay Bridge Tunnel.

When to Go

Prime spawning time for cobia is spring and early summer. The hot summer months of June through September are the best times to fish for them at the Chesapeake. The peak fishing occurs from late June through July, although any of the four months can be worthwhile.

Mike Oesterling is the fisheries

about Virginia cobia. VIMS plays a vital role in sustaining cobia populations throughout the Chesapeake.

Oesterling advises that summer cobia fishing is generally an anchored event, using chum buckets to set up a nice oil slick. Live baits such as eels, spot and croaker are preferred; however, cut baits such as menhaden are also productive.

That comes with practice and by listening to anglers who specialize in cobia, and there are a bunch of them."

Where They Hide

Anglers can find cobia inshore and nearshore. They enjoy inlets and bays. They are likely to inhabit rocky areas, or frequent some sort of ob-

e Chesapeake



and aquaculture specialist for the Virginia Sea Grant Marine Advisory Program at the Virginia Institute of Marine Science (VIMS), College of William and Mary. He knows all

"Be prepared to catch a lot of non-target fish," he says, "especially little sharks, and to sit a lot. Additionally, cobia 'catching' is somewhat of an art regarding when to set the hook.

struction or debris in the water, such as buoys, wrecks, bridge pilings and floating objects. If the rocks or pilings harbor crabs, the area becomes even better.

Even in offshore areas, cobia have an affinity for floating objects. Lazily, they will swim and hover around the many buoys in the Bay.

Not considered a schooling fish, cobia are more of a lone ranger. Experts say there can be two to four specimens swimming loosely together, but not grouped together such as spadefish or other schooling species. Oddly, they will sometimes travel and attach themselves to a school of fish of another species.

Oesterling says there are certain areas of the Bay that are more productive in the summer for anglers, based on his knowledge and research. According to the fisheries specialist, three areas consistently produce citation-size cobia: Bluefish

Rock Area, York Spit Light and Lattimer Shoal. However, cobia can be captured throughout the lower Chesapeake Bay.

How to Catch Cobia

In addition to using crab as bait, small live fish, shrimp, squid, chunks of fish and live eels work well. Still-fishing is the technique most often used. Sight-fishing is also a possibility, particularly when cobia swim near the surface around buoys or other floating obstructions.

These brutes will test tackle, so leave the light line and wimpy rods at home. They can be extremely hard to handle, especially during one of their unpredictable lunges and runs.

Bottom-fishing is the most widely practiced technique, when not sight-fishing for them around buoys. A standard fish-finder rig is the setup of choice of serious cobia anglers. Tidal pulls dictate sinker weights, and circle hooks make hook removal easier and allow for better survival rates if anglers practice catch-and-release fishing.

Oesterling indicates the best technique in late summer is to run the buoys and sight-fish for the giants. Cobia have a tendency to hang out around structures such as marker buoys when the water gets hot.

Something not widely known about cobia is the fact that they are outstanding table fare. Grilled or baked, fish eaters will find cobia a mouth-watering experience at the dinner table.

The Role of VIMS

"In the 1990s," explains Oesterling, "Dr. John Olney from the VIMS Fisheries Department received support from the Virginia Marine Resources Commission (Recreational Fishing Advisory Board) to investigate 'Cobia in the Lower Chesapeake Bay: Reproductive Ecology, and a Characterization of the Fishery.' VIMS conducted research on cobia much earlier, but Dr. Olney's study was by far the most comprehensive in providing information on the biology of cobia in Chesapeake Bay."

Olney established that the lower Chesapeake Bay is a major spawning ground for cobia (likely the northernmost spawning ground), identified potential areas where sexually-ripe cobia could be expected, provided data on the spawning period as well as data on timing of arrival for brood stock fish. At approximately the same time as Olney's work, the VIMS aquarium began to display juvenile cobia captured in the wild. These fish were observed to adapt quickly to confinement, accepted prepared feeds, and grew rapidly.

"Additionally, it was known that there was a market demand for cobia, primarily at high-end restaurants, which was not being met by commercial harvest," Oesterling adds.



©Marc McGlade

Be prepared for a street fight when it comes to fishing and landing cobia.



Chum bags help attract hungry cobia.



Live eels are one of the best baits for cobia.



Cobia are considered one of the hardest fighting fish in saltwater.

"The combination of Dr. Olney's basic reproductive biology studies and these observations led VIMS to begin investigating the potential for aquaculture of cobia.

"Jon Lucy, from VIMS, is the co-principal investigator, along with Claude Bain at VMRC, for the Virginia Game Fish Tagging Program. Jon Lucy actively tags fish and trains recreational fishermen to be volunteer fish-taggers. However, tagged cobia in this program are generally larger fish, barely legal or just sub-legal. So, while the Virginia Game Fish Tagging Program has some very interesting data on larger cobia, it has next to none on smaller fish."

VIMS actively raises and stocks cobia for the Chesapeake Bay. They identified three objectives they

hoped to address when the cobia aquaculture program began.

"First was the production of cobia as a food fish," Oesterling says. "Our success in spawning cobia in captivity galvanized the research community along the southeastern and Gulf of Mexico states. Cobia are primarily a semi-tropical, tropical species, which only appears in Chesapeake Bay once water temperatures have reached approximately 68 degrees, leaving in the fall as water temperatures begin to drop. Once we were satisfied that commercialization was going to proceed, we began to focus on the other two objectives we had originally identified."

Oesterling emphasizes at this time he does not believe the cobia stock is in trouble or that VIMS needs

Checkin' Out Cobia

- For saltwater regulations, contact the Virginia Marine Resources Commission, phone (757) 247-2200, Web site www.mrc.state.va.us.
- For information on statewide freshwater fishing regulations, creel limits or any other angling-related inquiries, contact VDGI at (804) 367-1000, or go online at www.dgif.virginia.gov.
- Virginia Saltwater Fishing Tournament, phone (757) 491-5160, e-mail mrcswt@visi.net.
- Virginia Beach Visitor Information Center, phone (800) VA-BEACH.
- City of Virginia Beach general information, Web site www.vbgov.com.
- Virginia Institute of Marine Science, phone (804) 684-7000, Web site www.vims.edu. Contact Mike Oesterling by e-mail at mike@vims.edu or by phone at (804) 684-7165.
- For a quality map, refer to ADC's Waterproof Chartbook of the Chesapeake Bay, 8th Edition, phone (888) 420-6277, e-mail gmcomaps@comcast.net, Web site www.gmcomaps.com.
- The cobia possession limit for recreational anglers is one per person, measuring at least 37 inches in length. The size and possession limits of all saltwater species in Virginia are subject to change monthly; therefore, anglers should check current regulations frequently either by calling the Virginia Marine Resources Commission or visiting their Web site.
- Virginia Saltwater Fishing Tournament offers a release citation for cobia measuring at least 50 inches in length. Anglers looking for recognition should consider taking the release citation route, as opposed to a weight citation that sacrifices the trophy. A weight citation requires a minimum weight of 55 pounds.
- For a listing of available charter boat captains serving the Chesapeake Bay, visit www.vbsf.net.
- Nearby launch sites to the Virginia Beach oceanfront include: Owl's Creek in Rudee Inlet; Seashore State Park at the end of 64th Street; and Lynnhaven Boat Ramp and Beach Facility in Lynnhaven Inlet, phone (757) 460-7590.

additional management measures. However, it is acknowledged that the recreational fisheries for cobia are increasing throughout its range and a primary target for the fishery is indeed the reproductively competent females (because of their large size). One way to gain information on early life history patterns and stock enhancement potential is through a tag-and-release program. Oesterling does not call this a stocking program, such as VDGIF does for trout streams. This is a research program where cultured cobia are released (stocked), in the hopes of being recaptured.

"Originally, we spawned our own cobia to obtain juveniles," he says. "This was necessary because there were no other sources of juveniles. However, in the past few years we have established cooperative projects with other facilities to provide us with the juveniles necessary for our work. We grow the cobia to two different sizes for tagging and release. One size, 'small,' are raised for approximately five to six months and are approximately 8 inches long when released. The other size, and the one I prefer, are 12-month-old fish, which measure approximately 24 inches and weigh 2 to 4 pounds."

The small fish are released in late summer, prior to the movement of

cobia out of Chesapeake Bay; the larger fish are released in early summer, after the first cobia have entered the Bay. All fish are tagged with a T-bar style tag in the shoulder, just prior to the dorsal fin. VIMS has documented that cultured cobia adapt very quickly to life in the natural environment, with good growth. Additionally, they have had one fish which presumably left Chesapeake Bay in the fall and returned the following year. That fish at tagging measured 22 inches long; upon recapture one year later, it measured 34 inches.

Although the Chesapeake Bay is chock-full of bruiser cobia, VIMS wholeheartedly recommends catch-and-release fishing to preserve these huge specimens.

"This means there is the potential for many sub-legal cobia to catch," Oesterling says. "Because the tagged fish are sub-legal, we encourage any anglers capturing a tagged juvenile cobia to leave the tag intact, record the tag number and telephone number to call, and release the tagged fish. From our work, both the Game Fish Tagging Program and the VIMS aquaculture program, cobia are very hardy fish. Even throat-hooked fish can be safely released by simply cutting the leader close to the mouth and leaving the hook in place. In our ex-

periences, these fish with leader and hook attached recover quickly and actually begin feeding with the hook still intact. Cheaper hooks break down quickly, and in some cases actually work their way out of the throat."

Oesterling encourages anyone wanting to target cobia to pay attention to seminars at different angler clubs or tackle shops where cobia fishing is the main topic. He believes anglers can learn the best way to rig their terminal tackle, the best way to hook and land cobia, and all sorts of tidbits and hints to improve their cobia fishing skills.

Whatever your summer plans may be, do not let this opportunity pass you by. If you have not wrangled with a mean cobia, you really have not experienced what so many anglers live for.

In closing, here is one bit of advice. Anglers planning to venture out to the Bay to fish for cobia might want to consider doing some roadwork or practicing on the heavy bag and speed bag in advance. If you think for one minute you can waltz right out there and take a cobia to the woodshed, you will be sorely (no pun intended) mistaken. □

Marc McClade is an avid angler and regular contributor to Virginia Wildlife.



Capt. Steve Wray (left) and Jim Clark show how good cobia fishing can be in Virginia waters.



Tagging and releasing cobia to fight another day greatly assists VIMS with collecting key data to help support the fishery in the Bay.

Going Hog Wild



Since 1607 the wildlife rich resources of the James River, along Jamestown and Hog Island Wildlife Management Area, continue to lure people from around the world.

by Jerry Ulman

Jamestown Island, the site of the first English-speaking settlement in the New World, lies on the banks of Virginia's James River near present-day Williamsburg, and America is celebrating its founding 400 years ago during 2007. While the site is a popular tourist destination now, the many special exhibits and activities planned to commemorate Jamestown's humble beginnings will certainly attract many more visitors who want to join the historic celebration. Birders who visit Jamestown Island can enjoy history and rich birdlife side-by-side.

Celebration highlights include a special changing exhibit that showcases early colonial artifacts, called "The World of 1607." Over the past three years, a very creative planning committee has been hard at work on

Governor's Palace, Colonial Williamsburg



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Just across the James River from historical Williamsburg and Jamestown, outdoor enthusiasts will find Hog Island Wildlife Management Area a great place to visit.

festivities to commemorate America's rich historical roots. These activities are planned throughout 2007. (Go to www.americas400thanniversary.org or www.historyisfun.org for a complete list of events.)

The coastal plain of Virginia, which includes Jamestown, Williamsburg and Hog Island, is steeped in the history and lore of many faces: original Native American inhabitants, colonial pioneers who settled along the James, Africans brought to the Colonies to labor on plantations, Continental Army troops who faced British Redcoats at Yorktown, and the Rebels and Yankees who fought each other along the Hampton Roads peninsula long ago.

Luckily, wildlife-watchers who plan to join the 2007 festivities have an excellent birding hotspot nearby to discover. On the other side of the river from the historic settlement, you'll find one of Virginia's premier birding hotspots on the coastal plain: Hog Island Wildlife Management Area. It's accessible by a 15-minute car ferry ride and short drive through the countryside.

Hog Island Wildlife Management Area

Used by anglers and hunters as well as wildlife-watchers, Hog Island is adjacent to Surry Nuclear Power Plant and is a wonderful mix of forest, marshes, river frontage and wetlands, managed cropland, open fields and weedy impoundments that are irresistible to waterfowl. Hog Island is a favorite field trip destination for Virginia's bird clubs.

Over 30 species of waterfowl and 35 species of shorebirds have been seen at Hog Island, a 4,000-acre preserve managed by the Virginia Department of Game and Inland Fisheries with support from several conservation organizations. It's a productive site during any season, and when you amble along the trails expect some pleasant surprises.

One blustery winter morning, I recall standing alone at the edge of an impoundment that had an icy crust over most of its surface as a very small spotted fawn slowly came out of a pine stand to my left. Haltingly, it made its way alone across the icy surface, and disappeared into the cattails and thickets on the other side.

During a spring morning in May, I watched a family of foxes hunt to-



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Hog Island WMA is inhabited by a variety of wildlife species, such as deer, waterfowl and numerous birds including bald eagles.

gether at the marsh's edge, as pups learned from their parents the fine art of catching small rodents.

Bald eagles and ospreys are abundant here. In the spring when fish are plentiful, refuge staff have counted as many as 55 bald eagles among the impoundments.

Over the past decade, white pelicans have made two unexpected visits, mixing with geese and swans for a few weeks before quietly disappearing. Hog Island is a very reliable site to find brown-headed nuthatches as they noisily feed on pine cones among the treetops. Yes, you can depend on enjoying a full morning of birding at Hog Island.

When you visit the preserve, you'll need to stop at a security checkpoint at the Surry Nuclear Station. As you enter the refuge beyond the checkpoint, stop and scan the impoundment on the right for waterfowl and raptors that often perch in the dead trees along the water's edge. A large signboard welcomes you to the refuge and there's a small observation platform near the road among the tall grass and cattails.



Nearby Sites to Visit

If you're a true history buff, you'll also want to explore Jamestown Island and Colonial Williamsburg, the world's largest living history museum that recreates life in the 18th century. Colonial Williamsburg is just a few miles from Jamestown Island and adjacent to the Colonial Parkway.

To reach Hog Island from Jamestown, exit the park and turn left (south) on State Route 31 to the ferry dock for passage across the James River to the village of Scotland. Ferries run every half-hour but during the summertime traffic is often heavy. After debarking, continue south on State Route 31 to the town of Surry and turn left (east) on State Route 10. At Bacon's Castle, roughly 7 miles from Surry, turn left onto SR 650 and follow it to the Surry Power Station where you'll need to clear a security checkpoint staffed by birder-friendly guards. You'll be given a pass to display on the dashboard and directed into the refuge.

Both Hog Island and Jamestown Island are stops on the Virginia Birding and Wildlife Trail, a series of loops and spurs on byways across the Commonwealth. If you're planning to bird beyond Jamestown and Hog Island, a guide to the birding trail will be indispensable. To purchase a copy (\$8.50) of the statewide *Virginia Birding and Wildlife Trail Guide* distributed by the Virginia Department of Game and Inland Fisheries go online at www.dgif.virginia.gov or call toll-free at 1-866-74VABWT.



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A common yellowthroat surveys the salt and freshwater marshes of Hog Island WMA.

To begin your trek around the Hog Island refuge, drive roughly one mile on the gravel entrance road to an observation tower located on the left side of the roadway. Park and climb the staircase to the platform to look for ospreys and great blue herons straight ahead in the trees in front of the James River.



©Dwight Dyke

Surry Nuclear Power Plant

The impoundment below the tower often has spotted sandpipers, green herons and both greater and lesser yellowlegs when the water level is low. The hedges around the tower and across the road are good places to find brush-loving birds such as eastern towhees, brown thrashers and sparrows, but also watch for common yellow-throats and yellow warblers.

To begin your walk, head into the field directly across from the observation tower behind the gate. After a few hundred yards, take the path left and follow it toward the buildings on the river bluff, the refuge staff's residence. Watch for purple martins, eastern meadowlarks, eastern bluebirds, northern rough-winged swallows and sparrows. During the spring, you may find bobolinks in their colorful plumage as well as dickcissels. If the fields are wet, watch for shorebirds among the grassy patches and mudflats, where you can sometimes spot black-bellied plovers.

Turn right at the staff residence and follow the pathway toward the stand of pine and deciduous trees. Scan the river for double-crested cormorants, gulls and terns. Along this stretch, you may find common, forster's, caspian, royal and least terns.

As you approach the stand of trees, the thickets between the path and water is good habitat for yellow-breasted chats, eastern towhees, gray catbirds, common yellowthroats and several sparrow species. The corridor into the forest is an excellent spot to find warblers, especially pine, palm, yellow-throated, black-and-white, black-throated blue, hooded, black-poll and magnolia warblers during spring migration.

On your right, look for a small great blue heron rookery and osprey nests in the trees next to the impoundment. Bald eagles and turkey vultures often perch on the bare limbs overhead. You'll generally see



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Bald eagles can be seen year-round at Hog Island WMA.

and hear osprey, red-tailed and red-shouldered hawks hunting over the impoundments along with bald eagles.

The vines and tangles among the brush on both sides of the path are usually full of birds. Watch for white-breasted nuthatches and brown creepers among the pine trees.

After roughly one-third of a mile, the large trees give way to smaller 15- to 20-foot pines on both sides of the path. This transition area is a good place to look for brown-headed nuthatches. These birds feed in small groups throughout the pines of Hog Island, but you'll more often see

them along this transition zone. Their calls to each other as they feed are very distinctive and easy to remember.

As the path turns westward and leaves the stand of trees, look to your left across the water. Standing in the distance, partially obscured by brush, is the U.S. Navy's mothballed fleet of ships that saw action in past wars, now awaiting demolition.

The open impoundments on either side of the path are good places to find great blue herons, great egrets and other waders along the edges if the water is low. With abundant fish, it's not uncommon to see a number of bald eagles and ospreys along sandbars with prey in their talons.

After crossing a culvert, the path turns north along an open field on your right. You'll soon come to a junction where you should turn left toward a stand of pine trees on both sides of the path.

After crossing a second culvert, spend some time scanning both tree-tops and underbrush for warblers and brush-loving birds. This spot, on both sides of the path, can be electric during spring migration. In addition to warblers, you'll find a number of nesting species, such as indigo buntings, blue grosbeaks, orchard orioles and summer and scarlet tanagers.

Continuing along the path, the impoundments on either side can be



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Hog Island has a rich ecosystem and not only draws a diversity of wildlife species, but also birders and wildlife watchers from around the state.



©Lynda Richardson

Tree swallows are a common sight along Hog Island and the marshes of the lower James River.

a good place to find waders and shorebirds. During winter months, you're likely to find rafts of ducks here, especially buffleheads, hooded and common mergansers, ring-necked and ruddy ducks, while in the summer wood ducks are often found along the grassy edges of the impoundments.

After crossing a third culvert you'll soon come to an observation tower similar to the one from which you started your trek. Here, you'll likely find eastern bluebirds, belted kingfishers, tree and barn swallows, great blue herons and great egrets.

Listen for orchard orioles that sing from the tops of the trees near the tower.

If you choose to walk behind the tower, you'll find yourself on a path along the opposite side of the impoundment where you entered the refuge (the site of the small observation platform and refuge sign). The brush along this path is home to many indigo buntings and a favorite spot for prairie warblers migrating through the refuge. The path ends at the treeline, a spot where bald eagles have nested in past years. The vantagepoint across the impoundment is good for spotting raptors in the trees as well as soaring overhead.

A right turn at the observation tower will lead you back to the refuge entrance road. Along the way, you'll find several good spots to look for waders in the impoundment on the right, where you're likely to see gulls, willets, yellowlegs, spotted sandpipers and other peeps. During spring and fall migrations, the number of shorebirds feeding here can be quite impressive.

Just before reaching the gravel entrance road, the path leads through a mixed forest stand between two impoundments, a spot that is nearly always active with passerines and waterfowl. In the winter, the impoundments on either side of the path usually have large numbers of ducks as well as tundra swans.

In the spring and summer, songbirds find the pines, vines and thickets irresistible. One spring morning, I quietly watched a mixed flock of 35 pine, palm and prairie warblers feed among the thickets and shrubs within a few feet of me. If you walk along this stretch of the path early in the morning, you're apt to surprise bald eagles, red-tailed hawks and osprey that quietly perch in the trees around the impoundment edges. Orchard orioles and yellow-billed cuckoos nest in the surrounding deciduous trees.

The path rejoins the refuge entrance road at a small graveled parking area. Turn right to return to the observation tower and your car. Birding along the road is often quite good, and you'll hear a variety of songbirds on both sides of the road. Watch for foxes that use the road to move among the impoundments while hunting.

The walk that I've outlined is several miles long on level ground and can take two or three hours to cover in entirety. It's easy, however, to make shorter loops among the impoundments if you want to shorten the distance covered.

In the late winter and spring, some sections of the refuge may be temporarily closed to protect nesting birds. No matter, you can always find a pathway through the impoundments that will be productive. You're unlikely to get lost since all paths loop back to the main road.

A cautionary note: beware of ticks and fierce mosquitoes. From late June to August, these pests can be overwhelming. Use a repellent beforehand and carry out a meticulous tick inspection at your trip's end.

During winter hunting season the refuge is closed some weekends. It's a good idea to call the Virginia Department of Game and Inland Fisheries (804-367-1000) to make sure the refuge is open when planning a visit. □

Jerry Ulman is a weekly outdoor and conservation writer for the Richmond Times-Dispatch.



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Hog Island WMA offers a special waterfowl hunting program during the fall and winter months. To learn more about Hog Island WMA visit the Department's Web site.

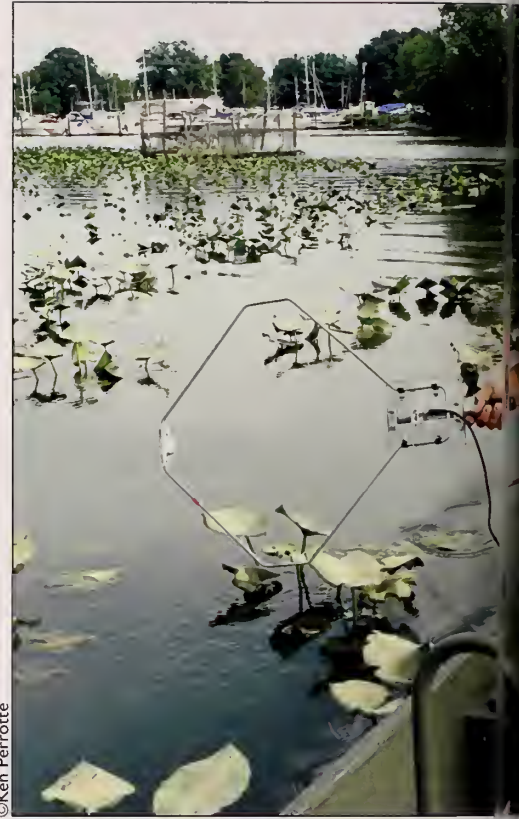
Alien Invas

Part 1: Virginia's War on Invasive Plants and Animals

by David Hart

They sound like a cast of characters in a B-list horror movie. But Asian tiger mosquitoes, woolly adelgids, phragmites, alligator weed, snakeheads and dozens of other characters aren't fictional monsters. They are non-native alien species that pose an immediate and serious threat to Virginia's scenic landscape and rich ecological diversity. The danger is far more frightening than anything Hollywood could imagine. They are attacking us from the air, from land and from our rivers, lakes and tidal waters, and these alien invaders are wreaking havoc across our state.

None have created so much hype and hysteria as the northern snakehead. The name alone evokes dreadful visions of ghastly creatures with horrific fangs and slimy skin. The sudden notoriety of northern snakeheads actually spawned a made-for-television movie where swarms of giant man-eating fish slither across lawns and into living rooms and devour able-bodied teenagers. Snakeheads don't eat people, of course, but they do have an impressive set of teeth and a healthy appetite for other fish. That's exactly why Virginia Department of Game and Inland Fisheries (VDGIF) biologist John Odenkirk and other fisheries experts are concerned about the discovery of these fish in the tidal Potomac River, one of the most important



©Ken Perrotte

Below left to right: hydrilla, phragmites, kudzu, Japanese honeysuckle, zebra mussels and snakehead fish. Illustrations ©Spike Knuth



ion!



Searching the waters of the Potomac, just downriver from Washington D.C., VDGIF fisheries biologist and northern snakehead fish specialist, John Odenkirk, tracks and monitors the spread of this non-native invasive species. Upper right: Multi-flora rose.

and diverse ecosystems in the country. The Potomac is home to a thriving population of largemouth bass and other popular game fish, and snakeheads may have a significant and permanent impact on the fishery.

"We just don't know what the effect will be," says Odenkirk, who, by default, has become the state's snakehead expert. "They may take over as the river's top predator or they may become just another part of the ecosystem."

What is known is that non-native invasive species are having a huge economic impact throughout the United States. The annual estimated cost of alien plants, animals and insects is around \$137 billion, a figure that includes everything from eradication and control costs and crop and timber losses to health-related costs. The impact in Virginia is estimated at around \$1 billion, a price tag that will likely increase as more invasives make their way into our state. The issue is so critical, VDGIF lists invasive species as a crucial statewide conservation issue and is part of a statewide, nine-agency council that includes the Departments of Forestry, Conservation and Recreation, Transportation and Health, among others. Invasive



©Dwight Dyke





Lee Walker

Northern Snakehead

by John Odenkirk

The expansion of the northern snakehead population has been monitored by VDGIF biologists since 2004. Boat electrofishing catch rate increased significantly from 0.2 fish/hr in 2004 to 6.1 fish/hr in 2006; while reported angler catches during 2006 (24) equaled the combined total of the two previous years. Maximum size increased each year suggesting the population was maturing. The largest snakehead seen yet weighed 12 pounds and was 31" long—this female was captured during an electrofishing survey in May, 2006.

The first nest was located in early September, 2006, and data suggested snakeheads had a protracted and/or repeat spawning season that lasted from April to September! Females had an average of 40,786 eggs. Collection patterns suggested snakeheads originated from Dogue Creek and traveled along the Virginia shoreline to colonize creeks to the north (Little Hunting) and south (Pohick and Occoquan). Although some fish crossed the Potomac River and were found along the Maryland shore, they seemed reluctant to enter water that was deep or swift. The radio telemetry study suggested that most snakeheads moved little, apparently content to stay in the abundant, shallow, and heavily-vegetated habitats of Dogue Creek.

Seventeen food items, including 15 fish species, were identified from snakehead stomach contents, and banded killifish was the most common food item. Bluegill, pumpkinseed and white perch were also consumed. The non-fish food items were crayfish and frogs.

Although population size increased, known range did not appear to increase or increased at a slower rate. However, increases in angler catch during 2006 at the northern and southern terminus of the existing distribution suggested range expansion was probably imminent. Look for snakeheads to begin appearing south of the Occoquan River in 2007.

Remember—anglers can keep any northern snakeheads caught provided they kill the fish and notify VDGIF (1-800-770-4951).

species affect everyone, whether they know it or not.

If snakeheads have assumed the starring role in the epic struggle against alien plants and wildlife, that notoriety has helped push the wider issue of non-native invasive species to the front page of major newspapers and magazines everywhere. That's a good thing, says Odenkirk. Since he assumed the role as Virginia's leading snakehead expert, he's fielded dozens of calls from reporters from all over the country and he's had the opportunity to spread the word about the implications of invasive species. Of course, it's the only positive chapter in a story that may have an unhappy ending.

A lingering question that will probably never be answered is: How did a fish from eastern Asia end up in



the Potomac River? Northern snakeheads are prized table fare in Asian households. They sell for top dollar in fish markets in large cities throughout the country, at least until their importation and sale was banned by the U.S. Fish and Wildlife Service in 2002. In many cases, the fish were kept alive in markets until they were purchased. How they

ended up in the Potomac is still a mystery, says Odenkirk, but the possibilities are limited to a few: Either they were released by an aquarium hobbyist, a restaurant or food distributor with a surplus or they were dropped into the river by an angler hoping to add another dimension to the Potomac's fishery.

"We'll never know," says Odenkirk. "We do know that there is a breeding population of northern snakeheads in the tidal Potomac. Of the 20 that were caught in 2004, one was a young-of-the-year juvenile and seven were females carrying eggs."

Snakeheads may be the latest enemy in the struggle to protect Virginia's native species from the constant assault of exotic plants and animals, but they are far from the first. Some invasive species have been a

Brooklyn, New York in 1851; they quickly spread to all 50 states and now number in the range of 150 million. Starlings were brought to America from Europe in the late 1800s and like house sparrows, are found throughout North America. Ironically, the same man who introduced house sparrows, Eugene Scheiffelin, was responsible for bringing starlings to America. Both birds displace native species and cost millions in maintenance and control efforts.

Japanese honeysuckle, with its easily identifiable creamy white flowers, fragrant aroma and honey-sweet nectar, was imported from east Asia in 1862 as an ornamental vine. It's found virtually everywhere in the east and southeast now, and like so many other non-native invasive plants, few people realize honey-

suckle doesn't belong here. It's adept at strangling native trees with its climbing vines and swallowing valuable edge habitat.

We may have become accustomed to the presence of countless invasive plants and animals, but their impact on our native flora and fauna has been enormous. Thirty-two plants in Virginia have been identified as highly invasive, a label that identifies them as the most ecologically and economically significant; 48 are listed as moderately invasive and two-dozen are occasionally invasive.

More noticeable but no less significant is the rapid spread of such plants as kudzu, phragmites, tree-of-heaven and multi-flora rose. Phragmites, also known as common reed, is rapidly taking over tidal marshland throughout the state. The tall, slender plant grows in dense colonies, choking out native vegetation and creating a homogenous landscape with little value to wildlife. It's been in the United States for a century or more, but the amount of marsh covered by phragmites has increased dramatically in the past few decades for reasons that botanists still aren't sure. Rick Myers, stewardship program manager for the Virginia Department of Conservation and Recreation's natural heritage program, says there seems to be a sort of exponential factor at work. The more that grows, the faster it spreads simply because more seeds and rhizomes—root sections—are released into the environment. Biologists do know that where phragmites thrives, most wild animals and birds don't. Waterfowl numbers decrease dramatically after the native plants are replaced; so do the number and variety of songbirds. It has virtually no value to any wild bird or animal.

Myers says his agency spends about \$50,000 per year on phragmites control and Joe McCauley, manager of the Rappahannock River Valley National Wildlife Refuge, says he has spent at least \$80,000 on phragmites eradication projects on and off the refuge since 2003. That figure doesn't include the cost of labor by refuge employees.

part of Virginia's landscape for so long they have become ingrained in our culture. We don't even know they don't belong here. English house sparrows, those ubiquitous little birds that hop around urban parking lots picking up scraps of discarded fast food were introduced into the United States over 150 years ago. One hundred sparrows were released in

Left: Phragmites is fast growing and is taking over much of the native vegetation along Virginia's tidal marshes. Above: To date Virginia's only infestation of zebra mussels was found in a 12-acre, 93-foot-deep abandoned quarry outside Warrenton. After extensive eradication efforts by VDGIF, this location is believed to be the first successful eradication of zebra mussels from a large, open body of water in North America, and perhaps the world.

Lee Walker

"We work with private landowners because if we don't control it beyond the refuge, it will continue to be a problem on the refuge," he says. "By taking a proactive approach, we are able to keep it from overtaking the habitat."

So far, phragmites covers only about 25 acres, a mere fraction of the refuge's 7,400 acres. However, Myers says there are at least 2,000 acres on Virginia's seaside coastal marshes, a number kept in check only through aggressive aerial herbicide application.

So how did we get ourselves into such a deep mess? In some cases, non-native species were unwilling hitchhikers on a long-distance journey from some faraway country. The rapid passage of goods by ship, airplane and possibly, in suitcases and pockets, from faraway lands has been kind to these exotics. Zebra mussels were transported in the ballast of ships from the Caspian Sea. They were first discovered in Michigan's Lake St. Claire in 1988 and quickly spread throughout the Great Lakes. How they ended up in a 12-acre quarry in Prince William County is anyone's guess. The pond's clear water is popular with SCUBA divers, so they might have hitched a ride on some dive equipment. Or, says Brian Watson, wildlife diversity biologist for the VDGIF, the microscopic larvae may have been carried by an unsuspecting duck. Just as with the introduction of snakeheads, no one knows how zebra mussels arrived in Virginia and no one will likely ever know. Watson, however, does know that so far, zebra mussels haven't found their way into any other waters in the state.

"The concern with zebra mussels is that they spread rapidly and cause all kinds of problems. There was an entire town near Detroit that had its water supply shut down because zebra mussels clogged the intake pipes. They cost millions of dollars in repair and maintenance," he says.

They also have a profound effect on entire ecosystems, adds Watson. Zebra mussels are highly efficient at filtering water, removing vital nutrients that native and naturalized fish



The mute swan, a native of Eurasia, is an exotic species which was introduced into North America 60-70 years ago.



Honeysuckle is extremely invasive and can easily spread, taking over native plant species. Below right: Hemlock seedling.

and other aquatic organisms need to survive. They also grow on native mollusks and smother them. A handful of diving ducks eat zebra mussels, but they offer no real benefit to Virginia's waterways and wildlife. They cause far more harm than good.

Other invasives ended up here much the same way: as unknowing hitchhikers attached to a product from a foreign shore. Asian tiger mosquitoes rode in used tires from Japan. Hemlock woolly adelgid, a tiny beetle that injects a poison into hemlock twigs as it sucks out the sap, probably arrived with ornamental plants brought over from Asia to the west coast in the early 1900s. They are

rapidly spreading throughout eastern hemlock forests, killing vast stands of what is possibly the most important tree in Appalachian forests. Already, an estimated 85 percent of the Shenandoah National Park's hemlocks have been affected by woolly adelgids. Hemlocks create vital shade for native trout streams and control stream bank erosion. Without them, many of our wild trout streams might become too warm to support brook trout.

Ironically, experts for years praised the benefits of some plants and animals that are now labeled as invasive. Autumn olive was recommended by biologists as an excellent forage plant for birds and animals and numerous state fish and wildlife agencies, even federal agencies, planted it on public property for the benefit of wildlife. A variety of birds eat the berries and deer relish the tender leaves and shoots. But autumn olive out-competes native vegetation, a characteristic that defines countless other invasive plants and animals. Even kudzu, brought to the United States from Japan in 1876, was promoted as a livestock forage crop and as an excellent way to control erosion. Drive through Virginia's countryside in the summer and you'll see why it was eventually removed from the U.S. Department of Agriculture's list of permissible plants. You'll also notice why it's been dubbed "the plant that ate the south." It climbs trees, swallows houses and smothers everything in its path. Invasives have a unique ability to overtake existing, native plant growth and that's exactly why they are held in such low regard and so much money is spent on efforts to control them.

If the war on invasive plants and animals seems like a war that's destined for failure, experts agree that it's a fight that must be fought. Despite the rampant spread of such plants as kudzu and honeysuckle,

other invaders can be stopped or at least controlled. Gypsy moths devastated large stands of eastern hardwood forests until aggressive measures were taken to control their numbers. They are still around, but the damage they cause annually has been reduced dramatically.

One of the most significant threats that hasn't reached Virginia's borders is sudden oak death, a fungus that kills oak trees. Virginia's landscape would be drastically altered if it reaches our forests. That's why it must be stopped.

Researchers are working diligently to find a natural control for woolly adelgids and numerous state and federal agencies are working to control phragmites and mute swans. Those graceful white birds may add a fancy dressing to a neighborhood pond or tidal creek, but they are aggressive, destructive and a bane to native plants and animals. Mute swans devour critical aquatic grasses, including the roots, and they willingly trample eggs of threatened black skimmers and terns. They may also be responsible for the decline in the number of tundra swans, a native species, wintering in the Chesapeake Bay. Gary Costanzo, waterfowl project leader for the VDGIF, says the bird was recently placed on the nuisance species list, allowing wildlife managers the ability to take critical actions before swan numbers explode. We already have as many as 800 in Virginia.

How You Can Help

We are all soldiers in the war on invasive species and we each have an obligation to do as much as we can to prevent the introduction and spread of unwanted plants and animals. State and federal agencies can provide help, but in most cases they can't offer hands-on assistance for eradication efforts. That's up to each one of us.

"Our job is to provide information about invasive species and the best ways to control the ones that are established," says Department of Conservation and Recreation's Rick Myers. "We work on lands owned by the DCR, but we just don't have the resources to treat private property, as well."

First, learn to identify the most dangerous and destructive invasives. There's not much anyone can do about English house sparrows or Japanese honeysuckle, but we can all help prevent the spread of zebra mussels and hydrilla by taking a few minutes to examine boat hulls and trailers for unwanted passengers as we leave the water. We can also take aggressive action when we discover tree-of-heaven or Chinese privet growing in our backyards by killing the plants before they spread.

Above all, don't bring invasive plants or animals into Virginia, even if your intentions are good. We learned long ago that no matter how beautiful or how harmless a plant, a fish or a tiny insect might seem; it could turn out to be the next starring creature in a real-life horror story. □

David Hart is a freelance writer from Farmville. He is a regular contributor to Bassmaster, American Angler, Bass Pro Shops Outdoor World and many other national and regional publications. He is the author of Fly Fisher's Guide to Virginia, Including West Virginia's Top Waters (www.wildadv.com).

More Information

For a full list of invasive species, visit www.invasivespeciesinfo.gov, a Web site that has photos and information on dozens of plants, insects and animals.



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Preserving

A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain.

The Wilderness Act of 1964
as defined by the
United States Congress

by William Funk

“**I** wish to speak a word for Nature, for absolute freedom and wildness...” So wrote Henry David Thoreau in his vital 1862 essay “Walking,” the nation’s first unabashed apologia for an untrammelled American wilderness that was even then fading away. Since that time we have largely failed to regard our native wild lands with anything approaching the mystical awe espoused by Thoreau and his apostles; quite the opposite. But prescient legislation, spearheaded by citizens motivated more by natural piety than economic gain, has preserved for posterity at least a scattered semblance of the green new world that greeted the first European explorers—noble tokens of an American heritage now sadly reduced to besieged islands in a roaring sea of humanity.

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the Real World

For hundreds of thousands of years, the great Eastern forests stretched ancient and unbroken from the shining Atlantic to the mud-blooming Mississippi. A squirrel, it has been said, could cross half the burgeoning continent without ever setting foot on the ground. Climax stands of mighty deciduous trees 12 feet and more across—oak, chestnut, hickory, beech—towered high over dark leafy floors where roamed wolves, bear, elk, cougar and bison. And Indians, whose antecedents had eons previously crossed the miry land bridge from their Siberian homeland to the happiest hunting grounds the world had ever known.

Change in this primeval environment was slow in coming; not since the long withdrawal of the glaciers and the coming of Stone Age hunters (and with them the sudden demise of such Pleistocene species as mastodons and saber-toothed cats) had anything of radical import occurred, just the slow ticking pulse of evolution, of life struggling with life, of wildfire and regeneration, of storm, and starshine, and the slow wheeling seasons.

The people who lived here then had no concept of “wilderness” apart from the setting of their daily lives—the woods and wildlife were simply all that existed outside the transient clearings and stretched-hide houses of their villages. They worshiped utilitarian deities, gods linked to the hunt and the harvest, gods of rainfall, fertility, and war. Theirs was a life of



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Left: Cascading waterfall along the Middle River near Verona. Right: Wildflowers growing in a field below Bush Mountain, Montgomery County.



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difficult abundance, of effort and observation. They walked carefully through their world, knew its cycles intimately, and were long sustained by its saving grace.

The first Europeans on our shores came seeking gold, glory and God. But unlike the Spanish who had preceded them to the Western Hemisphere, the early English settlers found no gold and few opportunities for glory, and the God who walked these shadowed forests at dawn was one they had long forgotten. The newcomers brought with them preconceptions of wilderness inherited from millennia of civilization, of a deliberate, agonized distancing of man from nature. The vibrant immediacy of ancient Celtic and Germanic cultures had long since been obliterated by the urbanizing seductions of Roman and then Christian acculturation. Since the Neolithic Age, which

Tucked in the mountains of the George Washington National Forest, Skidmore Lake reflects a view of peace and quiet. An opportunity that is getting harder and harder to experience.

blessed mankind with urbanization, agriculture, hierarchical religion, caste, class and organized warfare, Europeans had lived in cities and towns or in villages surrounded by miles of cleared farmland; the wild wood was seen as something to be held at bay, a malign source of dangerous beasts and evil spirits.

With this worldview firmly entrenched in her foreign conquerors it is easy to discern the plain reason underlying the decline of American wilderness: her forests were colonized by an ambitious iron-wielding agricultural race shorn of the natural values that time and necessity had implanted in the natives.

Thus the engine of empire, after a

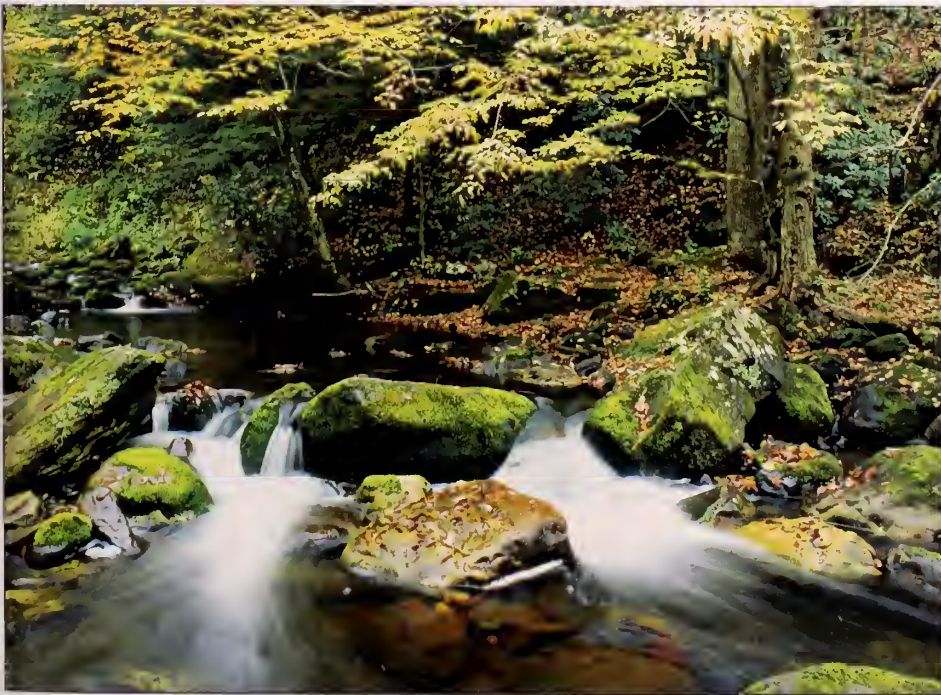
bumpy start those first long winters of starvation and despair at Jamestown, rose up, gathered its strength behind the Alleghenies, and leaped across the continent with startling speed. Thomas Jefferson had doubted that the new Americans could colonize the breadth of the trans-Mississippi region within two hundred years; it took mere decades. Things picked up even faster after the War Between the States: forests were annihilated, wildlife hunted out, mountains pulled down, rivers dammed and poisoned, cities sprawled like stains across the stripped contours of the landscape and eventually the world's weather itself fell victim to the blind hunger of industrialism. Modern man at last looked back from the Pacific shore over his continent's smoke-shrouded skeleton and concluded, not without reluctance, that the frontier had indeed expired.

Hindsight, as is often the case, brought with it retroactive protection for some of the sad parcels of native America still left standing. The federal Wilderness Act of 1964, which defines wilderness as "... an area where earth and its community are untrammelled by man, and man himself is a visitor who does not remain," was an epochal piece of legislation, in fact the cultural *cri de couer* of a civilization whose very wealth and power had been wrung from their land's natural resources. With so much of the country reduced to cities and suburbs, highways, farms and factories, the Wilderness Act valiantly declared that a few survivors of our growth mania would be spared chainsaw and dragline, asphalt and ATV. As the most successful destroyers of wilderness the world had ever seen, so could Western culture act as its greatest benefactor, setting aside for permanent protection certain (albeit marginal) lands solely for their ecological and recreational value.

It must be made clear that rather than being somehow a denying or a negative force, wilderness protection is instead one of the highest demonstrations of humanism yet realized, recognizing as it does that without silence and solitude, without occasion-



Above: Bottom Creek Gorge, a Nature Conservancy Preserve in Montgomery County. Below: Big Tumbling Creek, along Clinch Mountain Wildlife Management Area, is a favorite spot of hikers, anglers and wildlife watchers.



al interaction—be it via binocular or bow—with our fellow animals, without some avenue of escape from the crowded techno-industrial kingdom within which we have walled ourselves, the entire modern human enterprise must be called into question. As Thoreau said, referring to humanity as much as to nature, “in Wildness is the preservation of the world.”

Under the original Wilderness Act, designated wilderness areas would be composed of 5,000+ acres of unroaded, publicly owned landscape and devoted solely to recreation, science, education, aesthetics and the preservation, *in perpetuum*, of native ecosystems. Given the lesser population pressures afflicting the American West, the Act initially was applied to semi-virginal western lands administered by the United States Forest Service, National Park Service and Bureau of Land Management. Eleven years later another statute was adopted specifically aimed at protecting the deflowered regions east of the Mississippi, lands slowly recovering (where left unmolested) from deforestation, draining, farming and early settlement.

It is important to recall that almost all of Virginia’s timber that was accessible by man and horse had been logged, generally by clearcut, between the 18th and early 20th centuries. Realizing that the austere requirements of the western-oriented Wilderness Act could not realistically be applied to the overpopulated and manhandled East, the Eastern Wilderness Act of 1975 provided that marginal wilderness areas lying within “sight and sound” of even dense urbanization could still qualify for permanent protection.

Seeking more localized action, Virginia’s congressional delegation worked to bring about the Virginia Wilderness Act of 1984, which set aside six areas of national forest land in the Commonwealth. These included Beartown, Kimberling Creek, Lewis Fork, Little Dry Run, Little Wilson Creek, Mountain Lake, Peters Mountain, Ramsey’s Draft, Saint Marys and Thunder Ridge. Four more areas were added in 1987: Barbours Creek, Shawvers Run, Rich

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Hole and Rough Mountain. The Virginia Wilderness Act of 2000 added The Priest and Three Ridges areas to the Virginia Wilderness Preservation System.

All of the above—totaling 100,434 acres—are located within the George Washington or Jefferson National Forests in the Allegheny and Blue Ridge mountains. In addition, Shenandoah National Park has designated 82,260 acres as wilderness, while the North River Landing Nature Preserve, administered by The Nature Conservancy, and the Virginia Coast Reserve north of Virginia Beach represent the only protected wilderness areas along our densely populated coast. There remain around 420,000 acres of national forest land in Virginia as yet unscarred by road construction but lacking any form of legal protection, and it is toward the inclusion of these neglected tracts that wilderness advocates are currently directing their attention (the Commonwealth measures a grand 40,767 square miles total).

“Man and his affairs, church and state and school, trade and commerce, and manufactures and agriculture, even politics, the most alarming of them all,—I am pleased to see how little space they occupy in the landscape.” Thoreau spoke from the secure vantage point of the middle 19th century, when the country, even along the eastern seaboard, was still open and decentralized enough to allow wilderness appreciation to mean merely the immediate absence of farmers, loggers and “manufactory” workers. When these eager constituencies inevitably showed themselves in the remoter forests and mountains, Americans in Thoreau’s time always had the option of simply going westward to seek fresh vistas and new, unspoiled wildlands, possessed as they were of the enormous freedom to move on, like Daniel Boone, whenever the claustrophobic smoke of some new neighbor’s chimney was seen rising over the next hilltop.

Today, with the frontier dead for over a century, we no longer have the luxury of marching off toward the West whenever our favorite wilder-



Above: A common milkweed plant rises through a meadow to expose the beauty of Bush Mountain in Montgomery County. Below: For many outdoor enthusiasts a true wilderness experience is hard to achieve, but spending time in the outdoors hiking, hunting, fishing or camping can often be as rewarding.

ness area is targeted by the extractive industries, and the alarming resort of politics must be employed, skillfully and consistently, to guarantee the needed protections afforded by our beleaguered environmental laws. National organizations such as the Wilderness Society, the Sierra Club, and the Audubon Society, regional outfits such as the Virginia Wilderness Committee, the Dogwood Alliance and the Southern Appalachian Forest Council, and many local hunting and fishing clubs are regularly involved in the tedious politicking that

in a democratic republic is the only way to get things done.

One product of successful politicking is currently in need of your support. The Ridge and Valley Act of 2007, introduced on Valentine’s Day 2007 by Representative Rick Boucher



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and Senators John Warner and Jim Webb, will, if enacted provide permanent protection to over 55,000 acres of the Jefferson National Forest in Southwest Virginia through the creation of seven new Wilderness Areas and two new National Scenic Areas and the expansion of six existing Wilderness Areas. Readers sympathetic to the idea of leaving at least a trace of Virginia's native forests intact for future generations should contact their congressional delegation and make known their support of House bill H.R. 1011 and Senate bill S. 570.

Wilderness advocates have arrived at a cogent set of principles for conduct in our fragile roadless areas. First and most obvious, obey the law. No ranching, mechanized logging, exurban development or mountain-top removal, please. No mechanical vehicles of any kind—ATVs, SUVs, motorcycles, hanggliders, mountain bikes—are allowed into wilderness areas. Horses, mules, llamas, yaks, camels and people on foot are welcome. Hunting and fishing is generally allowed in accordance with local regulations.

To preserve the character and experience of wilderness adventure, proponents have devised additional voluntary measures for responsibly enjoying these remote areas:

1. Know your limits. Don't overreach your physical capabilities

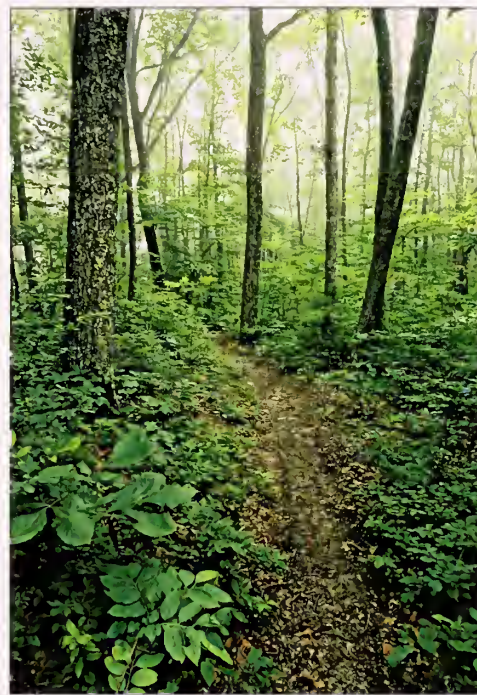
in such a way that others will be forced to risk their own necks extricating you from inaccessible areas.

2. Hike on the trails, camp at the campsites. Bushwhacking may seem glamorous to some but it is exhausting work that greatly increases your chances of becoming lost. In addition, the lives of wildlife that may be accustomed to seeing occasional hikers on the trails will be disrupted by folks noisily plunging through the brush, stomping on the undergrowth and generally making nuisances of themselves.
3. Utilize camping stoves rather than build extravagant campfires that scare off wildlife and spoil the starry night you've come to enjoy.
4. Pack out what you pack in; bury human waste deep and far from water sources. Take only photographs, leave only bootprints—and then only on the trails.

"We need the tonic of wildness, to wade sometimes in marshes where the bittern and the meadow-hen lurk, to hear the booming of the snipe, to smell the whispering sedge where only some wilder and more solitary fowl builds her nest, and the mink crawls with its belly close to the ground ... We must be refreshed by the sight of inexhaustible vigor, vast and titanic features, the sea-coast with its wrecks, the wilderness with its living and its decaying trees, the thunder cloud, and the rain which lasts three weeks and produces freshets. We need to witness our own limits transgressed, and some life pasturing freely where we never wander."

Saint Mary's Wilderness in the George Washington National Forest southeast of Staunton is composed of 10,000 acres of oak-hickory forests, steep and rocky ascents and plenty of

Virginia is crisscrossed with thousands of miles of hiking trails. Even a leisurely horseback ride in the backcountry can offer a great way to recharge ones outdoor senses and spirit. Above right: Appalachian Trail.



©Lynda Richardson

runs, rills, and small creeks feeding the eponymous river that drains the area. American chestnut trees, long stunted and shrunk by an alien blight, occasionally bear chestnuts in autumn, though they typically die before fruition. One sunny afternoon last October I found myself several miles deep in the woods, atop the 3,645-foot Cellar Mountain, unpleasantly confronted with what most certainly felt like a torn cartilage in my right knee.

The circumstances of the injury were unremarkable. I'd simply slipped climbing one of the many trailside rock ledges that abound in this location; my cheap "cross-training" shoes had failed me at a critical moment. My jolting unplanned and rapid decent from near the summit of the ledge had gone as smoothly as could be expected until the final dozen feet when I had bounced off an outcrop, lost all physical contact with the rocky slope itself, and freely fallen onto a pile of broken limestone at the base. The pain had been immediate and blinding. It had taken me three and a half hours of leisurely climbing that afternoon to reach my present elevation; I would have to begin my decent immediately if I hoped to get back to my truck before nightfall.

The next several hours of pained lurching and sliding down the stony



©Bill Lea

precipitous slope with the aid of a chestnut snag were memorable only for one consistent thought that I reluctantly entertained: nobody knew where I was, and as merely inconvenient as my knee injury was becoming there was no one to help should I suffer some later disaster in the murky twilight and be rendered wholly unable to walk. I guessed that I was still about three miles from the trailhead and my vehicle. What was it Thoreau had said about our need for adventure? "At the same time that we are earnest to explore and learn all things, we require that all things be mysterious and unexplorable, that land and sea be infinitely wild, unsurveyed and unfathomed by us because unfathomable. We can never have enough of nature."

During my frequent stops to tighten the t-shirt I'd wrapped around my stiffening knee, to catch my breath and curse my general fortune, I could hear nothing but the cold night wind sighing in the trees around me, the eerie nocturne of a distant barred owl, and the thudding rhythm of my heart. The empty oceanic sky offered no assistance, was neither hostile nor benign but simply indifferent. One lean vulture

rode the dusk's last updraft into the bloody arms of sunset. My knee, already gimpy from an old football injury, was swelling with vigor. The situation was getting desperate but was not yet serious.

All this too is part of the wilderness experience, I reminded myself as I stumbled forth into the gloaming. Even if my relatively minor wounding warranted it, would I really want a medivac helicopter to come clattering over yonder hilltop like a floating bonfire, bathing me and my intimate surroundings with a cold blue blaze of electric light, terrifying the interested animals companions I could now hear stealthily following at my heels?

To appreciate the full implications of wilderness we have to occasionally get out in the backcountry, far from the civilized niceties we take for granted, and while we're out there nothing is guaranteed. It can at times be damned inconvenient and even a little frightening. But to wholly connect with the natural world we must be prepared to enter its untamed precincts on their own terms, to accept the consequences of the inevitable dose of bad luck, to struggle, to think our way through, and to gain from even the most trying or painful experience. We do not journey to the wilderness to find security, comfort, or certain results—we go for the elemental thrill of meeting the primal

that still remains both without and within us.

The stars were looking kindly down as I staggered in an agonized torpor into the weedy parking lot of the trailhead, covered with dust, blood, bruises and sweat. After I pried off my boots and eased shivering into a sweatshirt I sat on the hood of my truck listening to the night world around me, looking up at that swirling chaos of suns, moons, and galaxies, and counting my blessings, the foremost of which was that even in a country as crowded and brutalized as ours there were yet patches of genuine wilderness that we'd had the courage to save from ourselves. Some day, perhaps, when modern civilization has backed us into a final corner, we shall look upon the preservation of American wilderness as the central contribution of our national experiment.

Late that night, I opened Thoreau one last time:

"So we saunter toward the Holy Land, till one day the sun shall shine more brightly than ever he has done, shall perchance shine into our minds and hearts, and light up our whole lives with a great awakening light, as warm and serene and golden as a bank-side in autumn." □

William Funk is an attorney and conservation writer living in Staunton. He may be contacted at williamfunk3@verizon.net

Take the time to venture off the beaten path this year to connect with the natural world around you.



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2006 Angler of the Year

Species Size	Angler's Name/Home	Body of Water	Date
Largemouth Bass, 13 lbs., 8 oz., 23 ins.	William Mawyer, Altavista, VA	Private Pond	07/24/2006
Smallmouth Bass, 6 lbs., 11 oz., 23 ³ / ₄ ins.	Al Scott, Staunton, VA	Lake Moomaw	11/10/2006
Crappie, 4 lbs. 6 oz., 19 ¹ / ₂ ins.	Robert Taylor, Concord, VA	Briery Creek Lake	04/23/2006
Rock Bass, 2 lbs., 1 oz., 13 ins.	John Guthrie, Sutherland, VA	Nottoway River	12/08/2006
Sunfish, 3 lbs., 14 ins.	Thomas Branham, Jr., Pound, VA	Flannagan Reservoir	06/05/2006
White Bass, 3 lbs., 3 oz., 18 ³ / ₄ ins.	James Johnson, Jr., Wytheville, VA	Claytor Lake	11/04/2006
Striped Bass, 38 lbs., 7 oz., 42 ¹ / ₂ ins.	Robert Armstrong, Penhook, VA	Smith Mountain Lake	04/29/2006
White Perch, 1 lb., 12 oz., 12 ¹ / ₂ ins.	Wilbert Reib, Sr., Petersburg, VA	James River	04/12/2006
Channel Catfish, 28 lbs., 3 oz, 42 ins.	Carroll Wilkinson, Chesterfield, VA	James River	04/05/2006
Blue Catfish, 95 lbs., 11 oz., 54 ¹ / ₂ ins.	Archie Gold, Jetersville, VA	James River	07/15/2006
Flathead Catfish, 48 lbs., 5 oz. , 46 ¹ / ₂ ins.	William Hughes, III, Red Oak, VA	Buggs Island Lake	04/05/2006
Rainbow Trout, 13 lbs., 4 oz., 28 ¹ / ₂ ins.	Luke Stevens, Rockview, WV	Crooked Creek	05/28/2006
Brook Trout, 7 lbs., 5 oz., 23 ins.	Jerry Bartley, Port Republic, VA	Hemlock Springs	12/29/2006
Brown Trout, 11 lbs., 15 oz., 27 ins.	Curtis Hall, Dry Fork, VA	Smith River	05/26/2006
Chain Pickerel, 6 lbs. , 25 ¹ / ₂ ins.	Michael Keller, Alexander, VA	Lunga Reservoir	06/28/2006
Chain Pickerel, 6 lbs.	Clyde Harrison, Littleton, NC	Private Pond	12/22/2006
Muskellunge, 33 lbs., 8 oz., 45 ins.	William McPeak, Barren Springs, VA	Claytor Lake	02/28/2006
Northern Pike, 10 lbs., 5 oz., 32 ins.	Eric Foster, Port Republic, VA	S. F. Shenandoah River	04/09/2006
Walleye, 13 lbs., 5 oz., 35 ins.	Adam Waller, Fries, VA	New River	04/12/2006
Yellow Perch, 2 lbs., 2 oz., 15 ³ / ₄ ins.	Randall Tucker, Clifton Forge, VA	Lake Moomaw	01/25/2006
Gar, 20 lbs., 11 oz., 50 ¹ / ₂ ins.	Pete Mathews, Chesapeake, VA	Northwest River	04/10/2006
Bowfin, 12 lbs., 32 ins.	Richard Wolford, Stony Creek, VA	Nottoway River	05/21/2006
Carp, 37 lbs., 41 ins.	William Whitlock, Jr., Louisa, VA	Lake Anna	05/06/2006

Please Note: You can find all you need to know about the Trophy Fish Program at www.dgif.virginia.gov or call 804-367-1293.

2006 Angler

The Virginia Department of Game and Inland Fisheries' Hall of Fame list is a compilation of all the freshwater anglers who qualified for advanced awards in the Angler Recognition Program.

To achieve the status of Master Angler I, five trophy fish of different species must be caught and registered with the Virginia Angler Recognition Program. For Master II, 10 trophy fish of different species must be caught, and so on for the Master III or IV level. Expert anglers must catch and register 10 trophy fish of the same species.

Each angler that accomplishes this feat receives a Master Angler or Expert Angler certificate and patch. Expert patches include the species on the patch. There is no fee or application for Master or Expert.

If you have records prior to 1995 and believe you may have obtained this angling status, please call the Virginia Angler Recognition Program at (804) 367-8916 to have your records checked.

The Creel-of-the-Year Award recognizes the angler who accounts for the most trophy-size fish caught and registered in the Angler Recognition Program from January 1 through December 31, annually.

MASTER ANGLER I

Donnie Anderson
James Baker, Jr.
Chris Black
Eddie Boothe
Thomas Branham, Jr.
Darian Brown
Bernard Burnette
Roy Butler
David Carrier, Sr.
Daniel Carter, Jr.
Thomas Cheryba
Michael Collins
Ronald Cowden
Jeffery Cross
Jessie Daniel
Guy Davis
Michael Davis
John Dellinger
Gary Dunn, Jr.
Ronnie Gathercole, Jr.
William Gery
John Hansen
Steve Harding
Charles Harper
Bernard Harvey
Matthew Haskins
Raymond Hevener, Jr.
Eddie Hoffman
Deborah Huffines
Eric Huffman
Robert Infranco
Ronald Jones

Hunter Kailos
Tommy King
Jeffrey Kline
Douglas Koehn, Jr.
Jack Koller
Leland Lee, II
Cecil Lewis
Jesse Lineberry
Timothy Mansfield
Gary Martel
Conrad Martin
Benny McAllister
Robert Mitchell, Jr.
Bruce Norfleet
James Owen
Travis Patsell
Michael Perkins
Donnie Perry
Earl Richardson
Jody Roberts
Sam Rorrer
Perry Saulnier
Larry Scarborough, Jr.
Joseph Sheaffer, Jr.
Richard G. V. Smith
Jason Stanley
Nathaniel Stevens
Harvey Stoner
Anthony Stump
James Swaggerty
William Taylor, IV
Michael Treadway, Sr.
Perry Veasey
John Woods
Wade Wright

MASTER LEVEL II

Richard Abrahamian
Barry Doss
Curtis Hall
Clyde Harrison, Sr.
Robert Jimerson, Jr.
Joseph Mitchell
Aubrey Palmore
Richard Rice
L. A. Roberts
Rodney Trail, Sr.

MASTER LEVEL III

William Haines



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Hall of Fame

EXPERTS

Largemouth Bass

Neal Bengtson
Kellam Brooks
Jeffrey Caldwell
Guy Davis
Scott Kestner
Stephen Morris, Jr.
John Sutton, Jr.
Lloyd West
Calvin West, Sr.
Robert Winckler, Jr.

Smallmouth Bass

Tracey Bowles
Gregory Ingold
Frank Wojciechowski

Crappie

John Eller
Gregory Marston
Kenneth Oakes
Shon Roberts

Rock Bass

James Burgess

Sunfish

James Batten
Thomas Branham, Jr.
Jeffrey Conley
Thom Hagen
Norman Hardison, Jr.
Basil Harper, Jr.
Thomas Henry
Aubrey Palmore

Striped Bass

Buster Conner
Dewayne Lamb
Chris Williams

Channel Catfish

James Funkhouser

Blue Catfish

Timothy Chaffin
Joshua Davis
Paul Henshaw

Robert Jimerson, Jr.
William Matthews
Joseph Mitchell
Howard Pendergrass
David Strbavy
Robert Wood, Sr.

Flathead Catfish

William Hughes, III
Darwin Schaeffer

Rainbow Trout

Billy Crawford, Sr.
Ronnie Davis
William Denny, Jr.
William Denny, Sr.
William Edwards
James Forbes
Gregory Hall
Michael Kostura, Jr.
Chris Kuehl
Jonathan Owen
Thomas Parsell
Terry Poff
Carl Reynolds
Ernest Schirmer, Jr.
Eric Schrock
Larry Smith
Wayne Snow
Roy Spencer

Brook Trout

Spencer Bobbitt
William Brandon
Curtis Cook
James Hudgins, Jr.
Robert Hurt
Franklin Mays, Sr.
Matt Quarles
James Taylor, Sr.

Brown Trout

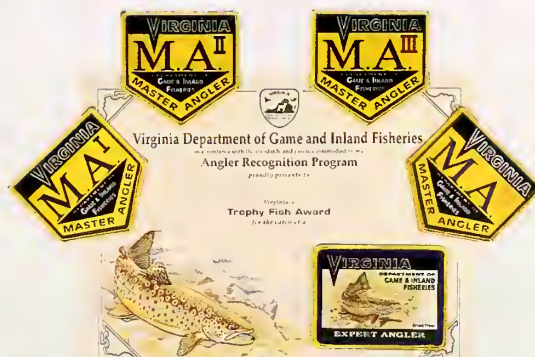
William Haines

Chain Pickerel

Paul Minter

Walleye

Tommy Dooley
William Haines



©Dwight Dyke

Ben Williams
Earlie Worrell

Yellow Perch

Stephen Batchelder
Shawn Bittinger
Stephen Brown
Gary Harmon
William Taylor, IV

Gar

Stephen Miklandric

CREEL OF THE YEAR

Will Helmick (85) -
Rainbow Trout (24), Brook Trout (58),
Brown Trout (3)

And Then There Were None

The tragic loss of the once-abundant passenger pigeon in Virginia

by David W. Johnston

Although passenger pigeons (*Ectopistes migratorius*) had been seen in the 1530s in Canada and Florida, the first Englishman to report the passenger pigeon in what was then Virginia (now Roanoke Island, NC) was Thomas Hariot. In 1585 he described "Turkie cockes and hennes: Stockdoves [pigeons]: Partridges" and other creatures. This report was followed by Captain John Smith's mention in 1612 of "Parrats and Pigeons" near Jamestown. Another Virginian, William Strachey, noted (1612): "A kynd of wood-pidgion we see in the wintertyme, and of them such numbers,...what extended flocks and how many Thowsandes in flock I haue scene in one day wondring...at their flight, when like so many thickend Clowdes, they (having fed to the Norward in the daye tyme) returned againe more Southwardly towards night to their Rowst." Arriving at certain seasons in incredible numbers, the wild pigeons were killed by tens of thousands.

Prehistoric sites in Virginia mountains dating back 12,000 years have yielded pigeon bones, and they were common at most historic-period archaeological sites on the eastern coastline. Long before the arrival of the English, local Indians relished pigeon squabs and adults, these pursued at night roosts with torches, then eaten or boiled for their oil and grease. The Indians called the pigeons "qua-no-ats" "tow-ac-quo-ins" and "O-me-me-oo."

In the 17th and 18th centuries Virginians continued to write vivid accounts of these abundant pigeons in the colony: "Here are some Years such huge flights of Pigeons that they darken the Sky, the Wind of their Wings is like the Rushing of Waters & they sit so thick on the Trees they alight, that they break down great Limbs with their Weight." (1659); "Vast quantities of wild pigeons about; our people killed 60 or 70 of them." (1763). One planter, Thomas Mathew, in his 1705 account of Bacon's Rebellion described three omens about 1675, one of which was

"fflights of pigeons in breadth nigh a quarter of the midhemisphere, and of their length was no visible end; whose weights brake down the limbs of large trees whereon these rested at night, of which the ffowlers shot abundance and eat 'em."

The famous naturalist-artist, Mark Catesby, visited Virginia from 1712 to 1719 before beginning his travels from South Carolina southward. His observations, specimens and paintings resulted in his renowned *Natural History of Carolina, Florida and the Bahama Islands*. From paintings and descriptions in that book, Catesby was honored as the discoverer of "The Pigeon of Passage." He wrote: "In Virginia I have seen them fly in such continued trains three days successively, that there was not the least interval in losing sight of them, but that somewhere or other in the air they were to be seen continuing their flight south."

Pigeons also occurred in immense numbers outside of Virginia. The ornithologist-artist, Alexander Wilson, estimated 2 billion birds in one flock in Kentucky about 1812. Another flock contained 1,150 million pigeons according to John James Audubon in 1831. Such incredible numbers prompted one authority on this bird to estimate that the passenger pigeon once comprised 25 to 40 percent of all birds in the United States.

Virginia farmers complained that the pigeons ate their cherries, pulled up planted peas, and damaged forests where they often break down oak limbs with their weight, and leave their dung inches thick under the trees they roost on. The pigeons consumed every acorn and nut in the forest, and left a bare forest floor in their wake, thus doubtless affecting the character of forests.

On into the 19th century great flocks continued to amaze Virginians. In 1808 President Thomas Jefferson received a neighbor's letter stating that "there as been the greatest number of wild pigeons this spring that I ever saw. Mr Craven...kills some days 700 & seldom less than three or four hundred. He salts & barrels them like fish for his people." From the *Lynchburg Daily Virginian*, February 23, 1872, appeared a

fascinating account of a great pigeon roost where they rose "upward from the bushes like columns of blue smoke...from one hour of sun until night the air is darkened with countless thousands of the birds flying from all directions inland to the roost." In 1874 thousands nested in Nelson County where nests and young covered every available inch of space on the trees on 75 acres.

By the 1880's however, matters changed as precipitous declines were reported throughout the bird's entire range. Virginia writers reported only occasional birds during the colder months of the year and very irregular; mainly in the fall. Still, occasional rumors of pigeon sightings in Virginia persisted through the 1890s.

Perhaps the most remarkable, and controversial, report of passenger pigeons was from President Theodore Roosevelt at his retreat "Pine Knot" in Albemarle County. At Sagamore Hill in New York and the White House grounds, TR had been an ardent birdwatcher. On May 18, 1907, he wrote to John Burroughs and Dr. C. Hart Merriam, Director of

the Bureau of Biological Survey, that he had seen a flock of a dozen passenger pigeons in Albemarle County: "there were doves in the field for me to compare them with, and I do not see how I could have been mistaken." By that time many ornithologists had considered the bird to be extinct. Merriam and Burroughs thought that TR was mistaken, but other ornithologists sided with TR. A year later Burroughs joined TR in birdwatching at Pine Knot, but they saw no pigeons. It seems likely that Roosevelt, at his Virginia retreat, was the last reputable naturalist to see wild passenger pigeons.

Widespread over-hunting and trapping were major factors in the pigeon's extinction. Despite some captive breeding programs and strict protection laws in many states in the late 1800s, the last passenger pigeon, named "Martha," died on September 1, 1914 in the Cincinnati Zoological Garden. With Martha's demise the world lost one of its most abundant species, a bird whose loss will forever be a blight on man's thoughtless destruction of natural resources. □

David W. Johnston, Ph.D. is a retired ornithologist. He is the author of *The History of Ornithology in Virginia*.



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Journal

2007 Outdoor Calendar of Events

June 2-23: Spring Squirrel Season, Only on specific Wildlife Management Areas. For more information go to the Department's Web site at www.dgif.virginia.gov or look in the *Hunting and Trapping In Virginia, Regulations and Information* booklet.

June 26: Float Fishing the James, James River State Park, Buckingham County. For more information call 804-367-6778 or go to the Department's Web site at www.dgif.virginia.gov.

July 17: Smallmouth Fishing Workshop, Floating the New River at Bisset Park, Radford. For more information call 804-367-6778 or go to the Department's Web site at www.dgif.virginia.gov.

August 7: Flat Out Catfishing Clinic, Pony Pasture, Richmond. For more information call 804-367-6778 or go to the Department's Web site at www.dgif.virginia.gov.

August 24-26: Mother/Daughter Outdoors, Holiday Lake. For more information call 804-367-0656 or go to the Department's Web site at www.dgif.virginia.gov. **Deadline to register is August 10.** □

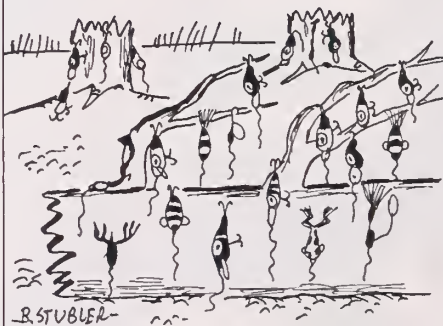
Wild Turkey Reporting System

by Gary W. Norman and David Murr

The Department would like to encourage everyone to report sightings of wild turkeys during the summer months. We would like to ask that reports be submitted on the Department's Web site. Observations of

hens with broods, hens without broods, adult males, and birds of unknown sex can be reported on the Web site. The reporting system offers the potential to provide useful information on wild turkey production throughout the state. This information will help us evaluate changes in harvest and population levels. The reporting system can be found by going to the Department's Web page www.dgif.virginia.gov, then choosing Hunting, Virginia's Game Wildlife, Wild Turkey, and finally Wild Turkey Reporting System. Thanks in advance for your help with our wild turkey conservation program.

If you have any questions or comments on the system please feel free to email me at Gary.Norman@dgif.virginia.gov. □



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Photo Tips

by Lynda Richardson

Celebrate Nature Photography Day on June 15

Congratulations folks! There is now a day for us! June 15th has been chosen as the official day to recognize a growing interest and love of nature photography, Nature Photography Day! On this day, everyone is encouraged to grab their cameras and go outdoors to photograph the wild and beautiful natural world around us.

Nature Photography Day is the brain child of Shirley Nuhn, Committee Chair of the History Committee for the North American Nature Photography Association (NANPA). Several years ago, Shirley observed that there were so many activities and holidays celebrated that maybe nature photographers should have a special day too. She worked with McGraw-Hill to have Nature Photography Day added to their reference guide, *Chase's Calendar of Events*, a well-known source of observed events and holidays. For two years now, Nature Photography Day has been listed with Chase.

NANPA states on its Web site that Nature Photography Day "has been set aside to honor the influence of the field as an art form, a vehicle for conservation, and an invaluable way of capturing the natural world." You can go to their site, www.nanpa.org, and find a list of suggested activities to help you celebrate the day.

So, pass the word! Tell everyone about Nature Photography Day. Start an annual event in your community or local camera club. Would the boy and girl scouts like to join in? How about starting a "Day in the Life of Nature Photography Day" photography contest? Wouldn't it be fun to feature field trips around the state, and exhibitions of nature photography in honor of Nature Photography Day?

Nature Photography Day offers a great opportunity to get outside with

your camera. Not only will you learn more about your surroundings, you will be able to share what you learn with others through your photographs. So, mark your calendar! June 15th is the day you need to make sure you pick up your camera, get outdoors and photograph the beauty our Commonwealth has to offer! □

To enter, submit one of your best images to "Image of the Month," Virginia Wildlife Magazine, P.O. Box 11104, (4010 West Broad Street), Richmond, VA, 23230-1104. Please include information regarding how and where the image was captured, and what camera, film and settings you used. Images will not be returned.



Above: J.P. Jennings, of Hume, tries his hand at photographing these beautiful tundra swans near his home. Introduce your child to the joy of nature photography!" ©Lynda Richardson

Image of the Month



Congratulations go to Terry Wright, of Roanoke, for this gorgeous photograph of a 1950's barn surrounded by 2 acres of buttercups found along Yellow Mountain Road. (Terry mentions that maybe that's why it's called Yellow Mountain Road!) Terry used an HP Photosmart m517 digital camera set on brightsun/landscape to get the shot. Beautiful image Terry!

RECIPES

by Joan Cone

A Summer Seafood Dinner

Here in Virginia two of our most popular fish, striped bass (including hybrids) and four species of catfish, are firm and large enough to be cut into one inch cubes. These are excellent for use in soups, stews, gumbos and other fishes requiring firm meat.

Steak or fillet your catch and remove skin and the bones from the steaks. Now cut your steaks or fillets into cubes of about one inch for use in this gumbo recipe.

Menu

Virginia Seafood Gumbo
Spinach and Strawberry Salad
Dinner Roll Knots
Key Lime Cheesecake

Virginia Seafood Gumbo

1 1/2 tablespoon cooking oil
1 cup chopped onion
1 cup chopped green pepper
Garlic powder to taste
2 cups low sodium beef broth
2 cups chopped fresh tomatoes
Salt to taste
1/2 teaspoon thyme
Several drops of hot sauce
1/2 teaspoon oregano, crushed
12 ounces skinned, 1-inch cubes of striped bass or catfish
1 cup okra, sliced
Cooked rice

Heat oil in large pot or Dutch oven. Add onion and green pepper and sauté until tender. Add garlic powder, broth, tomatoes and seasonings. Simmer for about 15 minutes. Add fish and okra, cooking briefly until fish is done through. Serve over hot, cooked rice. Serves 4.

Spinach and Strawberry Salad

1 package (5-7 ounces) baby spinach
2 cups sliced strawberries
1/2 cup crumbled goat or feta cheese
1/4 cup pine nuts, toasted

Balsamic Vinaigrette

1 tablespoon balsamic vinegar
3 tablespoons extra-virgin olive oil
1/2 teaspoon dried basil, crushed
Salt and pepper to taste

Whisk vinegar and olive oil in small bowl. Add basil and season with salt and pepper. Combine salad and strawberries in large bowl. Add vinaigrette; gently toss to

evenly coat. Divide salad among 4 plates. Sprinkle each salad with cheese and pine nuts.

Dinner Roll Knots

4 to 4 1/2 cups flour or bread flour
1/4 cup sugar
2 envelopes Rapid Rise Yeast
1 1/2 teaspoons salt
1 1/4 cups very warm milk (120° to 130° F.)
1/3 cup butter or margarine, softened
2 large eggs
Cooking spray
Poppy seeds or sesame seeds, optional

Combine 1 cup flour, sugar, undissolved yeast and salt in large Pyrex mixing bowl. Add warm milk and butter; beat 2 minutes at medium speed with electric mixer, scraping bowl occasionally. Add 1 egg and 1 cup flour; beat 2 minutes at medium speed. Gradually add enough remaining flour to form a soft dough that pulls away from the sides of the bowl while mixing for 3 more minutes by hand. Spray top of dough with cooking spray; cover tightly with plastic wrap and let rest 10 minutes.

Remove dough from plastic wrap. Punch dough down and divide into 24 equal pieces. Roll each piece into 9-inch rope. Tie loose knot in center of each rope. Place on a non-stick baking sheet. Spray tops of rolls with cooking spray and cover with plastic wrap. Preheat oven to 375°F. Let rolls rise in a warm, draft-free place until doubled in size, about 20 to 40 minutes.

Beat remaining egg; brush on rolls. If desired, sprinkle with poppy or sesame seeds. Bake 15 to 20 minutes or until golden brown. Remove and cool on a wire rack.

Key Lime Cheesecake

2 packages (8 ounces each) cream cheese, softened
1/2 cup sugar
1 teaspoon grated lime peel
2 tablespoons fresh lime juice
1/2 teaspoon vanilla
2 eggs
1 graham pie crust, 6 ounces

Beat cream cheese, sugar, peel, juice and vanilla with electric mixer on medium speed until well blended. Add eggs and mix just until blended. Pour into crust. Preheat oven to 350° F. Bake for 40 minutes or until center is almost set. Cool. Refrigerate 3 hours or overnight. Garnish with thawed whipped topping and lime slices. Makes 8 servings. □

On The Water

by Jim Crosby



The New World of Boat Propulsion

There are several telltale signs of a fellow boater in your vicinity that can be detected prior to an actual sighting. One of the strongest of those is the smell and presence of that nostalgic blue smoke emitted by two-stroke outboards. The distinctive odor of the gas/oil mixture being burned can evoke emotional memories of days long past.

Outboards became popular about 80 years ago when Ole Evinrude created the first practical outboard in 1909 and the noisy/smelly two-stroker has been our constant companion ever since. Their most practical advantage is they are simple, light, powerful, easy to repair and reliable.

They also blow about 30% of their fuel directly out the exhaust. Three gallons of fuel out of every ten consumed is puffed directly into the environment. When they were developed fuel was cheap and plentiful. Environmental concerns existed only in the back of a few minds and were not an issue.

Several things happened on our way into the 21st Century—boating became a much more popular pastime, gas has come a long ways from the days of 20-cent gallons, and environmental concerns have reached a fever pitch.

The Environmental Protection Agency (EPA) has mandated tough new pollution standards that established the 2005 model year as the last one for the traditional two-stroker.

So, if you are repowering or buying a new dinghy, what are the choices for a new outboard? Fortunately, cleaner, quieter and much more efficient outboards with advanced technology are now available just in time

to save the day for your small-craft boating needs.

What, the two-stroke outboard has not gone away? The remaining two-strokers are now built with direct fuel injection. They are much cleaner for the environment, and meet the EPA 2006 anti-pollution requirements, however they are only currently available in horsepower ratings above about 90 hp.

Four-stroke motors have been around for about 40 years and with advanced, modern technology, they are becoming much more popular. You can even have a normal conversation with someone while riding in a four-stroke powered dinghy—they are quieter, more fuel efficient, have more power at lower RPMs and are much smoother at idle. They consume about 40% less fuel than a comparable two-stroker.

On the slightly negative side, they are heavier and more expensive than their older, two-stroke competitors, however, on the long haul and at today's fuel cost, they could pay for themselves in fuel savings alone, not to even bring in the environmental issues.

For the small-craft outdoorsmen, we welcome a relative newcomer to the boat motor scene. While it has been around for some time, it has morphed into something short of spectacular. Electric motors have always represented the quietest form of locomotion and up till now, have been limited to short periods of service by the capacity of their empowering battery, as well as their very limited power output.

Well, hold onto your hat because the newer models now available have power output of up to 6 hp and coupled with lithium manganese batteries can run longer and faster than their predecessors while still offering a quiet ride to the fishing hole.

For your small-craft power needs, you should definitely consider the new electrics available. The only way you can travel on the water in a quieter mode is to paddle your boat with short strokes and no splashing entry when breaking the surface. □

My contact information has changed: Comcast purchased Adelphia and changed my email address which is now: jecrosby@comcast.net



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